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A few Words more against Cutaneous Abſorption.
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LONG ago have I promiſed, and oftentimes ſince determined, to purſue my inquiries upon Cutaneous Abſorption; but convinced by the evidence of the numerous experiments corroborating the new doctrine that I have eſtabliſhed,* I could but ſmile, and recollect how much time, and how many uſeleſs arguments were waſted by one of my preceptors, to demonſtrate that "a ſtraight line was the ſhorteſt that "might be drawn between two given points."

Much has been and is daily ſaid in ſupport of this ſuppoſed function of the ſkin: ſuperſtition and prejudices, religious advocates of old erroneous doctrines, too often receive the aſſiſtance of pride and obſtinacy; arguments which have been com-

* See my Inaugural Diſſertation, 1800. Philadelphia.
2. Henry P. Dangerfield, Inaugural Diſſertation, 1805.
3. Joſeph Klapp, Inaugural Diſſertation, 1805.

pletely refuted, are again and again brought forward, backed by ſome experiments, which when conſidered attentively, however deſerving of notice they may appear at firſt view, cannot in any way afford the leaſt help to that falling doctrine.

It is indeed amuſing to liſten ſometimes to a number of facts ſeriouſly related, and gravely explained, to ſhoulder up ſuch an erroneous opinion of the old ſchool, as if the faculty was to loſe by its fall, any of its privileges to beſmear the body of a faithful patient, who ſeldom dares to aſk for an account of the modus operandi, and whom it would be eaſy to ſatisfy, (if it was neceſſary) by only ſubſtituting the much more elegant and ſcientific word *ſympathy*.

" Pray ſir," was aſking me once a thoughtful gentleman, rubbing his ſnuff-box, after having quartered his gold-headed cane under his arm, " how do you account Sir," pauſing to load his noſe, " for this fact—that— ſailors having no freſh water on board, quenched their thirſt by plunging their bodies in, and wetting their clothes with ſea water."

Have you ſeen it, Sir, replied I, with an inquiſitive look? " I cannot—ſay ſo."

Nor I either——however, as I am not diſpoſed at preſent to deprive you of the benefit of authorities, I will grant the fact, (which by the by, if it was put in practice, would ſave a great deal in many reſpects) if you diſpenſe me with its explanation until you have yourſelf accounted for the following obſervations of the ſame nature, and eſtabliſhed, not by the authority of a few, but by general ſelf-experience.

How often you and I, and many others have experienced a great thirſt in the night, and not being able to find any water

at hand, have fallen aſleep after having either raiſed up in bed, or walked once or twice through the room, and awakened in the morning perfectly free from thirſt; can abſorption be thanked in ſuch a caſe?

Children at night often cry for a drink, and their mothers or nurſes not being able to ſatisfy the poor little ſufferers, on their growing noiſy and troubleſome, give them a whipping; they are huſhed, go to ſleep and never think of a drink the next morning; has the whipping been abſorbed?

Who, ever ſo little obſervant, has not remarked that a number of affections of the ſtomach are removed by impreſſions upon the mind, upon the ſkin, the membrana pituitaria, the urinary organs, &c.?

Who is not acquainted with the means vulgarly put in practice to ſtop the hiccough? has not an active flagellation antagoniſed the power of an emetick thrown into the ſtomach? has not the ſame, judiciouſly been put in practice, to ſnatch from the hands of death the unfortunate victim of an overdoſe of opium?*

* The caſe I am going to relate, offering not only remarks in illuſtration of theſe facts, but of other opinions advanced in this eſſay, and being original in its mode of cure, as far as my knowledge of records extends, I think it cannot find a better place.

A ſon of Mr. M'Dowell of Philadelphia, in his third year having ſwallowed about half a pint of ſpirituous liquor, fell into a ſtate of intoxication, threatening immediate death. When I ſaw the child his extremities were cold, the pulſation at the wriſts entirely gone, and his jaws cloſed ſo tight, that it became impoſſible to adminiſter any remedies by the mouth.

A ſtrong ſolution of antimoniated tartrite of potaſh was conveyed to the ſtomach through the noſe, and ſtimulants applied to the ſurface of the body, hands, feet, and the membrane of the noſe, without any apparent effect.

Seeing but little chance for the life of the child, unleſs ſpeedy means were reſorted to, I deſired the crowd in the room to retire, keeping only one aſſiſtant, Capt Berry, brother-in law to the child. I then introduced a catheter into the urethra, and irritating by a ſmart friction the ſphincter veſicæ, in a ſhort time the child ſcreamed out, and with proper management recovered.

Might not the ſame ſtimulus be uſed in a number of inſtances, when the irritability has departed from the external parts of the body? I would not at all

Is not hunger itſelf, this imperiouſly commanding ſummons of Nature, ſuſpended by the enchanting anticipation and inexpreſſible pleaſure of ſatisfying the venereal appetite ?*

Fear will appeaſe both hunger and thirſt; pain produces the ſame effect; in ſhort, any ſudden impreſſion may have the ſame reſult. As I have experienced theſe effects myſelf, I beg to be permitted to relate a few facts, which can leave no doubt of what I have been advancing.

When a young ſtudent, I was once compelled by thirſt, to get up in the dark of a night, but before I could get to the place where I expected to find water, I was ſtruck with ſuch a panic, that it was with difficulty that I could regain my bed; my thirſt vaniſhed away, and in a ſhort time, I fell aſleep, without the leaſt uneaſineſs.

Several years ago, riding on horſeback in a hot ſummer day, I grew ſo weak and fainty from thirſt, that I would have given any thing for a cup of water: at laſt coming acroſs a ſmall run, I pulled off my hat and ſtooped down to catch ſome water, when all of a ſudden my horſe knocked me with his head on the noſe with ſuch violence, that I received on my eyes, the impreſſion of a flaſh of lightning: I forgot my thirſt to the very end of my journey.

be afraid to go farther, and introduce into the trachia and bronchiæ, the ſmoke of tobacco and other ſtimulants of the like; in aſphyxia, eſpecially in thoſe caſes produced by ſubmerſion, ſuch a practice, clearing at the ſame time, the frothy mucus that fills up theſe parts, would be an excellent addition to the means already uſed in ſuch caſes.

* An intimate friend of mine, told me, that ſhortly after his marriage the effect of a phyſick that he had taken was totally nullified by the pleaſure that he experienced from his young wife holding his hand in hers at his bed ſide.

In warm weather, a cold application to the ſkin, eſpecially on thoſe parts that are generally protected, is a much more effectual means to appeaſe that unextinguiſhable thirſt that is then experienced, than drinks.

In ſhort, what is thirſt, but an uneaſy ſenſation in the ſtomach, commonly relieved by cold water,* or other watery beverage? But does this ſenſation proceed in all caſes from a want of moiſture in the ſyſtem? I am induced to believe the contrary for the following reaſons,—1ſt. becauſe the thirſt is relieved before the draught had time to paſs into the circulation.—2d. becauſe a number of liquids will increaſe rather than pacify the thirſt. But if, out of a blind reſpect for antiquity, and for the ſake of keeping up a mere opinion that did well enough when, with the name and garb of a man of ſcience, an old perſonage could perſuade, and his votaries believe any thing, we are willing to force in the ſea water through the pores of the ſkin, we muſt alſo create another power to reject the ſalt, and other principles contained in it, for we know that as it is, when taken internally, it is very unfit to ſerve the purpoſe contended for; and after all, how and by what means could it be carried to the ſtomach? Beſides, as I ſhall have occaſion to ſhew afterwards, nothing can paſs in the animal economy, without having previouſly been prepared by a power inherent to thoſe reſervoirs intended by nature to ſtore the materials neceſſary to its ſupport.

"Well Sir, what will you ſay of a number of experiments tending to prove, that perſons have had their weight increaſed, by immerſion!"

* I have ſaid cold water, for tepid drinks are very little effectual in relieving thirſt. I ſtrongly ſuſpect that a cold body introduced into the ſtomach, without conveying any moiſture with it, might have the ſame effect as cold drinks: the experiment is not impoſſible, and I propoſe to try it one day or other.

Nothing, until the experiments have been performed as they ought to be. I may perhaps then admit, as I now conjecture, that the ſkin of a living body ſoaked for a long time in water, may imbibe a ſmall portion of it; but this is ſurely not what you pretend to call abſorption? Beſides we have as many, if not more authorities to deny this fact, as to eſtabliſh it.

"But, Sir, will you deny that a number of ſubſtances applied to the ſurface of the body, often create a nauſea?"

I admit that, although I have a ſtrong right to doubt it.* But is the nauſea in ſuch caſes, created by an abſorption of the ſubſtance applied? If ſo, is it not more rational to ſuppoſe, I may ſay, to admit, as I have evidently proved by my former experiments, that ſuch an abſorption is performed by the organs of reſpiration? But it is ſo common a thing to ſee an action upon the ſkin, or upon any of our ſenſes, produce nauſea, vomiting, and other derangement of the functions of the animal economy, that we cannot, without injuſtice, blame it upon the pretended abſorbent power of the ſkin.

The ſimple ſmell of a number of ſubſtances produces nauſea, and even vomiting.

* I ſay that I have a ſtrong right to doubt, that the ſubſtances ſaid to produce a nauſea when applied externally, have that effect; for I have never ſucceeded in my attempts. I have once applied as much as a drachm of emetic tartar upon the neck of a perſon, and kept it confined there for twenty-four hours, without producing the leaſt ſymptom of nauſea.

This very day, before breakfaſt, I have applied and ſecured by a bandage, thirty grains of emetic tartar moiſtened with water, upon the pit of my ſtomach, and forgot it until one o'clock P. M. Having perſpired freely on account of the heat of the day, I then found that it had entirely melted away, but never experienced the leaſt effect from it.

Tickling often produces the ſame effect.

The ſight of a diſguſting object, even without ſmell, has created ſickneſs at the ſtomach: it is a ſenſation ſo generally experienced, that it cannot be denied.*

A diſcordant muſic affects ſingularly the ſtomach; this is ſo generally experienced, that among the French who claim the aſcendancy of taſte in judging of harmony, it has become a proverb. Cette muſique fait mal au coeur.†

The ſight of the human blood brings on nauſea, vomiting and fainting.

The relation of a dirty ſtory, of a diſguſting anecdote, has in my preſence, in company with twenty perſons, repeatedly produced vomiting.

The motion of a carriage riding backward, is a ſenſation that ſeldom fails to create ſickneſs at the ſtomach in a great number of individuals; I have experienced it myſelf frequently.

Sailing, whirling round, ſwinging, are attended with the ſame derangement.

* I once accompanied a gentleman to the muſeum of the Pennſylvania Hoſpital. After having examined attentively the elegant preparation in wax, of the internal parts of the human body, he whiſpered to me to come out, and declared that he was ſeized with ſuch a ſickneſs at his ſtomach that he was afraid of looſing the benefit of his dinner.

† Mal au coeur, by the French, means that ſickneſs at the ſtomach that precedes vomiting.

A kick on the ſhin bone, a fall on the coccix, a ſevere pinch of the toes or fingers, in ſhort, almoſt any ſudden acute pain, produce ſickneſs at the ſtomach.

Moſt aſſuredly none of us will pretend to hint, that either tickling, the ſight of an object, ſound, motion, a kick or a fall can be abſorbed?

I have witneſſed fear produce vomiting and purging with extreme violence, and in one caſe, ſudden death; I have ſeen it, not long ago, occaſion the emiſſion of the ſeminal fluid inſtantaneouſly, and that without the appearance of any erection.

Indeed, would it not be, ſhall I be permitted to add, more conſonant with ſolid judgment, to attribute a great many of the effects ſuppoſed to be produced by our remedies, to the operation of the mind: for do you want to increaſe the effect of a remedy, you will ſurely operate it by informing your patient of what he is to expect from it.*

"Now, Sir, the effect of cantharides, when applied in bliſters, I hope," ———————— proves as much as all the reſt; for hardly once in twenty caſes, does a ſtranguary take place. I have applied bliſters upon the pubes and perinæum,

* I have known lately of a perſon having had ſeven evacuations, from the taking of two pills of *mica panis*. Another had the ſame number from ſix drops of *Aq. color. cum tinct. coccin llæ*, and three more the next day from three drops of the ſame preparation. If, as it is a fact, imagination can operate the evacuation of the tears, urine and ſweat, the liquor of the proſtate gland and ſemen, I ſee no reaſon to deny it the power of determining vomiting and the alvine flux.

without producing any appearance of a ſtrangury; nay, I have gone ſo far as to give

pulv. cinchonæ gr. x.
canthar. gr. vj. M.

three times a day, and ſix days elapſed before I could perceive any ſymptoms of ſtrangury.*

When bliſters occaſion a ſtrangury, it muſt be owing to ſome particular cauſe, ſtill remaining in the dark, for if the ſtrangury was owing to the abſorption of ſome particles of the cantharides, the effect would, without doubt, be more general. Indeed the diſorganization that is produced by the bliſter on the ſkin, renders it very unfit for performing a vital function. And moreover the ſame reſult happens ſometimes after burns and ſcalds on the ſkin.†

I do more juſtice to the excellence of the vital functions of organized bodies; for I do firmly believe, becauſe experience proves it daily, in a thouſand inſtances, that nothing can be abſorbed and carried into the general circulation, even when received in the inteſtinal canal, unleſs it has previouſly undergone a complete change, by a perfect digeſtion.

* A gentleman under my care took the tincture of cantharides for ſeveral weeks without perceiving any ſymptoms from it.

† I had, ſeveral years ago, one of my hands miſerably burnt with gunpowder, and it produced a ſtrangury. The great conſent that exiſts between the ſkin and the urinary organs, does not require the ſuppoſition of an abſorption, to explain the phenomena that are exhibited by their alternating with each other. When the bladder is very full, an horripilatio is felt before evacuating the contents; cold applied to the ſkin increaſes the quantity of urine; ſweat leſſens it. Moſt children exhibit a kind of chill when they want to make water. I have known ladies to have their children clean, extremely early, by attending to this phenomenon. My children have all been put in breeches between fifteen and eighteen months, and kept clean by a ſtrict attention to that.

It is certainly erroneous to ſay, that the matter of abſceſſes is abſorbed. Their matter is not abſorbed, but a digeſtive proceſs elaborates it into a *certum quid*, which, being abſorbed, undergoes the proceſs of aſſimilation, and becomes organiſed and fit to circulate with the other vital fluids, in the like manner as the food is, by digeſtion in the ſtomach, prepared to yield the particles neceſſary to be carried in, and repair the loſſes of the general maſs I have opened buboes after the digeſtive proceſs and abſorption had been going on for weeks, and have found that the contents were entirely different from the matter that comes out of thoſe which either break out, or are opened before the digeſtive proceſs has begun.

Almoſt all the parts of the animal economy, poſſeſs ſome power of ſecuring or getting rid of whatever is foreign and may become hurtful to themſelves. Indeed we find through all nature, that living bodies have received from it a wonderful power of reſiſting deſtruction, although many agents are often combined againſt them to operate their diſſolution. A complete transformation, a creation, I may ſay, has often taken place, to ſerve the ſublime purpoſe of ſelf-preſervation.

" But the narcotic effects of opium, my dear ſir, when applied externally, appear to me an objection, ſo ſtrong againſt your doctrine, that I am afraid you will not eaſily get rid of it."

I have never experienced any effects from its application upon myſelf, and I alſo declare that I have never witneſſed it upon others; although I have uſed large quantities of opium in poultices, the only narcotic effect that I could perceive, was an abatement of the pain in the part upon which the poultice was applied.

But I cheerfully grant your objection in all the extent you may pleaſe to uſe it; and ſtill more, as I never pretended to make any thing by the new doctrine that I have eſtabliſhed ſeveral years ago. I will not make uſe of it to refute your objections, for, I am confident, that, if you had given to the new mode of experimenting that I have embraced, all the force that it juſtly deſerves, you would not now lay ſuch a ſtreſs upon theſe fallacious objections.

I come to your objection.—It includes two ſuppoſitions which you at once take for granted.

1ſt. That opium taken internally is abſorbed and carried into the circulation, conſequently produces ſleep.

2d. That opium applied externally producing an effect nearly ſimilar, it muſt proceed from the ſame cauſe.

This reaſoning might do very well for ſome, who, to ſave the trouble of inveſtigating, idle in a perpetual ſtate of minority, implicitly believe whatever has been tranſmitted to us to be ſacred and inviolable.

But does the ſanction of antiquity preclude the right of reviſion, and, *S'en ſuit-il qu'une chose ſoit vraie parcequ'il y a des ſiecles qu'on y croit et qu'on la repette?*

To believe that ſimilar effects proceed from the ſame cauſe is undoubtedly a very great miſtake, for we frequently obſerve not only ſimilar effects from cauſes materially different, but different effects from the ſame cauſe.

Rocking puts any perſon to ſleep.

A warm room, coming from a cold air, has the ſame effect.

Combing, ſtirring gently the hair, ſcratching ſoftly the head, has a very narcotic power.

The murmur of waters, the ſhaking of the leaves of trees, a buzzing ſound or darkneſs, lulls any one to ſleep.

Have you not often ſeen a part of an auditory ſunk into a ſnore by the monotony of an unintereſting ſermon?

I might go further; but who will ever pretend to ſay that either rocking, combing and ſtirring the hair, the murmur of water, or any other ſound, may be abſorbed.

Nay, I am not afraid to ſay, that I do not believe the deleterious effects of opium taken internally, to be the reſult of an abſorption; for, as I have already ſaid, before any ſubſtance is abſorbed, it muſt be prepared by a digeſtion; and this requires a longer time than we generally find elapſed between the taking and the effect of this ſubſtance. It is more probable that the coats of the ſtomach receive, and by a natural intimate connection with the medullary organ, immediately tranſmit to it the deadly blow.

I ſhall not attempt to explain how the head and ſtomach can react upon one another; it is one of thoſe myſteries of nature, that will, I am ſorry to think, perhaps remain ſuch for ever; experience proves it daily to thoſe who are in the habit of obſerving the phenomena of life.

I am induced to favour that opinion, from the reſult of an operation that I have often had occaſion to perform. When an injection is directed into the uterus, an inſtantaneous ſickneſs is

felt at the ſtomach, faintneſs follows ſhortly after, and in ſome caſes, fainting comes on for a ſhort time. The interval of time between this effect and the introduction of the injection, is ſo ſhort, that no abſorption can be ſuſpected. Beſides, abſorption being one of the vital organic functions, intended for the purpoſe of reſtoration, it is difficult and unwiſe to ſuppoſe, that it may ſerve alſo the purpoſe of deſtruction. The impunity of ſwallowing the variolous and venereal virus, nay the venom of the viper, are extremely, if not ſufficiently ſtrong facts, to enable me to ſupport this opinion, and eſtabliſh the improbability of contagion being admitted into the general circulation, after having been carried, by means of the ſaliva, into the ſtomach.

So much has been ſaid, and ſuch a ſtreſs is ſtill laid upon the effect of mercurial frictions, that I cannot diſmiſs the preſent ſubject, without taking notice of, and expoſing the fallacy of the argument deduced from it.

The ſupporters of the doctrine of cutaneous abſorption, no leſs prejudiced than thoſe in favour of the importation of diſeaſes, never have, and never will, I am inclined to think, favour us with peculiar experiments to ſtrengthen the dying breath of their enervated ſyſtem. *Analogy*, ever-laſting ſource of errors, is their ſole defence; like a ſtraw in the hand of a child, they uſe and break their weapon, to ſtrike out a ſmile from their antagoniſts.

Let us repeat their ſo often repeated argument:

Mercury taken internally acts upon the ſalivary glands;
Mercury applied externally produces the ſame effect;
Then mercury is abſorbed.

It might as well be contended in this way:

Mercury taken internally acts upon the bowels;
Mercury applied externally does not produce the ſame effect;
Then mercury is not abſorbed.

This laſt argument is certainly intitled to as much credit as the firſt, and I ſee no reaſon why they ſhould not antagoniſe each other; or, which is far preferable, be both laughed at as mere ſophiſms.

The error of attributing ſimilar effects to the ſame cauſe, I have already pointed out ſo repeatedly, that I think it ſuperfluous to expatiate any more on the ſame ſubject. But further, that mercury applied externally acts upon the ſalivary glands, I cannot grant, without this reſtriction, that it muſt be applied in ſuch a manner as to favour the free acceſs of its emanations to the organs of reſpiration;* and without this proviſo, it never can affect thoſe glands, nor any other part of the conſtitution; this is now eſtabliſhed by ſo many experiments, that no ſhadow of doubt can be raiſed againſt it.

Certain it is, that no mercurial preparations, except thoſe in which this metal is preſerved in its natural ſtate, but only divided by mixture and trituration, are able to produce a ſalivation by external application. The *ung. citrinum* has, I know, ſometimes affected the mouth, but this has been owing to a cauſe, that, as far as I know, has never been accounted for. Having obſerved it myſelf in a few inſtances, eſpecially in one, where four perſons of the ſame family, uſing the ſame ointment, felt

* See my Inaugural Diſſertation on abſorption. See Doctor Daingerfield's and Doctor Klapp's on the ſame ſubject.

very ſenſibly the effect of it upon their mouths, I inſtituted ſome experiments to find out the cauſe. It happens ſometimes that by a long friction on the ſkin, the mercury is revived and the ointment turns black, but unleſs this change takes place the mouth is never affected by it.*

This is certainly another convincing proof of the non-abſorption of the mercury by the ſkin, for if we admit it to take place in one inſtance, we muſt admit in all, eſpecially when we conſider, that by its rancidity the unguentum mercuriale becomes undoubtedly leſs fit for abſorption, than the other bland ointments prepared with the mercurial calces or ſalts, which never affect the mouth.

The volatility of mercury has been too much overlooked; and this has been the ſource of all the errors, with which theories have been overſtrained. After ſeeing patients in the ſame ward with thoſe uſing mercurial frictions, ſenſibly affected by it, we can not refuſe volatility to this metal; and if it is volatile enough to be conveyed from one place to another, through the aerial fluid, can we fairly inſiſt in refuſing it admiſſion to, and through the reſpiratory organs?†

* From this obſervation, I have always cautioned thoſe uſing this ointment againſt rubbing it too long on the parts to which it is applied. There muſt have been, I acknowledge, at the ſame time, a defect in the ointment, for I never was able to produce this change with the ointment that I have prepared myſelf.

When eſſential oils are mixed with this ointment, they turn it black, and render it capable of affecting the mouth, as I have aſcertained by ſeveral experiments; but in ſuch a caſe the ointment is fairly decompoſed, and a portion of the mercury revived, for if rubbed upon gold or copper it will amalgamate it.

† My ſon and another young man had both their mouths very ſenſibly affected, after triturating, for about eight or ten hours, in the month of July, ſome old rancid mercurial ointment.

I have never preſcribed mercurial frictions. I direct my patient to ſpread the mercurial ointment upon a leather belt, and wear it upon the abdomen, juſt below the pit of the ſtomach.

Now, for argument ſake, forgetting for a moment that we have refuted the old doctrine and eſtabliſhed the new one, by indiſputable facts, can we rationally draw this conſequence, that mercury is abſorbed by the ſkin, becauſe the application of a ſingle one of its preparations, increaſes a particular ſecretion? We might as well admit that a feather titillating the membrane of the noſe is abſorbed, becauſe it increaſes the ſecretions of the ſaliva, the mucus of the noſe, the lubricating fluid of the eyes, producing, beſides the flowing of all theſe ſecretions, ſneezing and coughing.

But do we not ſee other ſtimuli uſed upon the ſkin, increaſe others of the natural ſecretions?

Frictions of the hand upon the nates produces the ſecretion and emiſſion of the ſeminal fluids. Flagellation poſſeſſes that power in a higher degree; *(ſee Meibomius de uſu flagrorum in re venereâ.)* The ſight of laſcivious pictures, the reading of books of the ſame deſcription, &c. &c. have the ſame power. Cold applied to the ſkin, as I have already ſaid, increaſes the ſecretion of the urine. Such ſtimuli, I expect, will never have a claim on abſorption.

Was I not apprehenſive of treſpaſſing upon the indulgence of the reader, I could relate hundreds of experiments to corroborate thoſe already recited. But as I cannot flatter myſelf to have conveyed perſuaſion to every mind, all that I aſk from thoſe ſtill retaining doubts, is to reſort to inveſtigation, and when convinced, to reſolve the *laus tibi ſit*, to him who has deſerved it.

☞ THE following very appropriate and intereſting Lecture was delivered by DR. RUSH, at the requeſt of the Preſident of the Philadelphia Agricultural Society, in compliance with motives impreſſed by the recommendations of that Society in their publication on the ſubject of it. He has permitted it to be printed among their Memoirs at the requeſt of the members of that Society, who attended its delivery. That it may be promulgated among thoſe of the Medical Profeſſion, for whoſe attention it was principally deſigned, it is alſo publiſhed by his permiſſion in this collection.

An Introductory Lecture to a Courſe of Lectures, upon the Inſtitutes and Practice of Medicine, delivered in the Univerſity of Pennſylvania, on the 2nd of November, 1807; *upon the duty and advantages of ſtudying the Diſeaſes of Domeſtic Animals, and the Remedies proper to remove them. By* BENJAMIN RUSH, M. D.

GENTLEMEN,

THE ſcience of medicine is related to every thing. A mere phyſician, that is, a phyſician who knows nothing but the ſciences which are ſuppoſed to belong excluſively to his profeſſion, is a non-entity. To deſerve that title in its extenſive import, it is neceſſary for us to know ſomething of the principles and practice of every art, and purſuit of man. There is ſcarcely one of them that does not furniſh ſome uſeful facts, or ſtriking analogies, which may be applied to practical purpoſes, or to the ſupport of ſome important principle in medicine. Even the ſcience of morals is capable of affording aid to the healing art by its influence upon the underſtanding through the medium of the paſſions. It produces this effect in proportion to the extent of the objects to which we direct

our benevolence. The phyſician who loves the whole human race, will always be actuated with more zeal to extend the uſefulneſs of his profeſſion, than the phyſician whoſe affections are confined to the limited circle of his habitual patients. His zeal will be more active, and more impreſſive upon his underſtanding, ſhould he deſcend in the overflowings of his benevolence from the human ſpecies, and embrace in his ſtudies and labors the means of leſſening the miſeries of domeſtic animals. This part of the brute creation have large demands upon us. The deſign of this lecture is ſimply to point out the duty and advantages of ſtudying their diſeaſes, and the remedies that are proper to remove them. The ſubject is an intereſting one to private Gentlemen as well as to phyſicians, and I entertain too high an opinion of the good ſenſe and correct views of medical ſcience of my preſent audience to believe, that a few remarks upon it will be deemed an improper introduction to a courſe of lectures upon the inſtitutes and practice of medicine.

We are bound in the firſt place to diſcharge the important duty to domeſtic animals which I have mentioned, by the relation that has been eſtabliſhed between them and us by the author of nature. They were created at the ſame time, and from a portion of the ſame duſt of which our great anceſtor was formed. They are the only part of the brute creation over which man has retained his dominion ſince his baniſhment from paradiſe. We are to them (ſays Dr. Hartley) the vicegerents of God; and empowered to receive homage from them; and we are obliged by the ſame tenure to be their guardians and benefactors."* Their ſubjection to death, and all the diſeaſes and pains which they feel in common with us, are the effects of the ſame rebellion againſt the Governor

* Obſervations on the frame, duties and expectations of man. Vol. I. p. 415.

of the univerſe which ſubjected Adam and all his poſterity to the ſame evils.

The diſeaſes of the animals which ſtill roam the foreſts, and refuſe to be ſubject to man, are few in number, and generally of ſo mild a nature as to yield to the operations of nature. But this is far from being the caſe with domeſtic animals. Like the human race, they acquire new and violent diſeaſes by civilization, or by the manner of life to which their connection with us, and their ſubſerviency to our intereſts and pleaſures expoſe them. Even parturition ſo perfectly the work of nature in beaſts of prey, is often attended with the ſame difficulty and danger in domeſtic animals that take place in women. Of this Dr. Bland has mentioned ſome remarkable inſtances in his obſervations upon human and comparative parturition. Similar inſtances have been communicated to me by Dr. Dewees, as having occurred under his notice while he practiſed Midwifery in the neighbourhood of Philadelphia.

2nd. We are bound to ſtudy the diſeaſes of domeſtic animals, and the remedies that are proper to cure them, by a principle of gratitude. They live only for our benefit. They coſt us nothing in wages or clothing. They require, in exchange for their labor, and all the other advantages we derive from them, nothing from us but food and ſhelter, and theſe of the cheapeſt and coarſeſt kind, ſo that there is conſtantly due to them, an immenſe balance of debt from us. This motive to take care of their health and lives will appear more ſtriking when we conſider the ſpecific benefits we receive from each of them. The horſe is not only an important appendage, but a neceſſary part of the cement of civilized ſociety.—He ploughs our fields,—he drags home our harveſts and fruits to our barns and cellers. He conveys them from diſtant coun-

tries, over rough and difficult roads, to our market towns and ſea ports. He receives in exchange from them, the products of foreign nations, and conveys them to the interior and remote parts of our country. He keeps up the inland connection between different ſtates by means of ſtages and poſts, and thus favours the quick communication of intelligence, and the increaſe of national intercourſe, commerce and happineſs.—He adminiſters to our health and to our pleaſures under the ſaddle, and in harneſs. He keeps up ſociety and friendſhip in neighbourhoods too ſcattered in its population to admit of viſits upon foot. In vain would country churches and courts be opened, without the ſtrength of this noble animal; nor could the great ſyſtem of repreſentative government be ſupported in an agricultural country unleſs he conveyed the elector to the place of ſuffrage. In maintaining the freedom and independence of nations, the horſe bears a diſtinguiſhed part. When capariſoned with the furniture of war, he feels with his rider, the courage and the pride of arms. In the race, he delights us by his ſwiftneſs, in which he exceeds all other four footed animals. Nor let us forget his ſagacity in diſcovering roads, and chuſing the ſafeſt parts of them, when inattention or darkneſs, has rendered his rider, or driver unable to diſcover them. In the phyſician's midnight excurſion to viſit the ſick, how often has his horſe conducted him in ſafety, (and ſometimes overcome by ſleep) through imperceptible paths, and acroſs deep and rapid currents of water to the door of his patient, and again, back to his own home. Still further, how often has the convivialiſt who has ſat too long over his evening bowl, owed his life or his limbs to the good temper of this faithful animal, who, in ſpite of a contrary direction of his bridle, has carried him with unbroken bones to the arms of his ſervants, to be conveyed by them to his bed in order to doſe away the remains of his intoxication.

To the horned cattle we are indebted for many of the bleſſings and comforts of life. The ſtrength, and patience of the ox in the plough and the team, have added to the wealth of the farmer in every age and country. The cow has ſtill greater demands upon our gratitude. Her milk, in its ſimple ſtate, furniſhes ſubſiſtence to a great part of mankind. Its products in cream, butter and cheeſe, form the moſt agreeable parts of the aliment, and even of the luxuries of our tables. A puſtule upon her udder ſupplies a matter which when introduced into the body defends it for ever from the ſmall-pox, and without ſubſtituting in its room, a painful or loathſome vicarious diſeaſe. Millions in every part of the globe unite with us in expreſſions of gratitude to heaven for this important contribution to the happineſs of the human race. But our obligations to this benefactor of mankind, and to her whole ſpecies, do not ceaſe with their lives. Their fleſh affords us the moſt agreeable aliment after death. Their tallow and the oil which is interpoſed between their joints, ſupply the abſence of the ſun in candles and lamps, whereby labor and ſtudy are profitably extended during a part of the night. Their hair affords a neceſſary ingredient in the plaſter of our houſes. Their ſkins protect our feet and legs in the form of ſhoes and boots from the injuries of the weather. They furniſh likewiſe coverings for our books and pleaſure carriages, and ſaddles for our horſes. Their horns ſupply us with combs, and even their bones are converted when freſh into aliment, and when dry, into a ſalt of extenſive uſe in medicine and in a variety of the arts.

Sheep occupy the next rank in the liſt of domeſtic animals in their claims upon our ſcience They afford us by their wool a covering from the inclemency of winter during every year of their lives, and by their deaths they ſupply us with a delicious aliment in the forms of lamb, and mutton.

The hog is ſaid like the miſer to do good only when he dies. But this is ſo far from being true that he is diſhonored by the compariſon. He fattens upon the offals of our kitchens, and performs the office of a ſcavenger in cleaning the ſtreets of our cities from putrefying maſſes of animal and vegetable matters. At his death, he bequeaths us his fleſh for food, his hair for bruſhes, and his fat for medical and culinary purpoſes.

The immenſe and profitable diſproportion between the labor of the aſs and the mule, and the expenſe of their food, render their health of great importance in thoſe countries where wheel carriages cannot be employed to convey the products of the earth to a public market.

The goat by its contributions of the delicate fleſh of its young, and of its medicinal milk to our uſe, is entitled to a ſhare of medical attention.

The courage and fidelity of the dog in defending our perſons and property from the midnight aſſaſſin and robber, and the uſefulneſs of the cat in deſtroying or chaſing from our houſes the miſchievous animals that infeſt our cellers and cloſets, entitle each of them to an inquiry into the cauſes and cure of their diſeaſes.

It remains only to mention the claims of poultry of all kinds, to a phyſician's care. They adorn our yards and fruit trees with their plumage. They inform us by their crowing, and other noiſes, of the approach of day. A part of them furniſh us with eggs for aliment, with quills for writing, and with feathers for our beds; and all of them, in a greater or leſs number at a time, generally conſtitute after death a portion of our banquets, where a diſplay is intended of hoſpitality or elegance.

In addition to what has been ſaid in favor of domeſtic animals in their individual capacities, I ſhall only remark that collectively, they leſſen the ſolitude and ſilence of a country life. They pleaſe us with their gambols when young, and delight us, by their looks and geſtures in mature life, every time they receive food or ſhelter from our hands. They furniſh the means of encreaſing and perpetuating the fertility of our lands, and finally they gratify us with a ſenſe of our ſovereignty over their labor and their lives; and thus furniſh us with a ſmall portion of that pleaſure which the father of the human race enjoyed, when he received from his Creator the commiſſion of his extenſive dominion over all the creatures that live and move upon our globe.

A third reaſon why we are bound to ſtudy the cauſes and cure of the diſeaſes of domeſtic animals, is becauſe nature is wholly *paſſive* in ſuch of them as are violent, or does harm in her efforts to remove them. This is evident in a more eſpecial manner in the epidemics which ſometimes prevail among them. The horſes, cattle and ſheep, of large neighbourhoods, and extenſive diſtricts are often ſwept away by thoſe general diſeaſes where no aid is afforded from medicine.

4th. By ſtudying the diſeaſes of our domeſtic animals we may reſcue them from the hands of quacks, who add to the miſchievous and unſucceſsful efforts of nature, the evils of abſurd, painful, and deſtructive remedies. Under this head I ſhall introduce a paſſage from the words of Mr. Vial, which exhibits thoſe evils in the moſt expreſſive and affecting language. Speaking of the veterinary ſcience, he ſays, "At this moment all appears obſcured or bewildered by the ill placed confidence of the owners of cattle upon the blackſmith of the pariſh, upon illiterate and conceited grooms, ſtupid and liſtleſs ſhepherds, or upon a ſet of men

infinitely more dangerous than all the reſt. Who arrogating to themſelves the ſtyle of doctors, ride about from town to town, diſtributing their noſtrums, compounded of the refuſe and vapid ſcraps of druggiſt's ſhops to the deſtruction of thouſands, whoſe varied diſorders they treat alike, neither conſulting nature, or art, for the cauſe or effect.

"Miſerable animal! bereft of ſpeech, thou can'ſt not complain, when to the diſeaſe, with which thou art afflicted, excruciating torments are ſuperadded by the ignorant efforts of ſuch men, who at firſt ſight, and without any inveſtigation to lead them to the ſource of thy diſorder, pronounce a hackneyed common place opinion on thy caſe, and then proceed, with all expedition to open thy veins, lacerate thy fleſh, cauterize thy ſinews, and drench thy ſtomach with drugs adverſe in general to the cure they engage to perform."*

5th. It is our duty and intereſt to attend in a more eſpecial manner to the health of thoſe domeſtic animals which conſtitute a part of our aliment, in order to prevent our contracting diſeaſes by eating them. Certain vegetables upon which they feed by accident, or from neceſſity, impart to the milk and fleſh of ſome of them an unwholeſome quality. Great labor ſometimes has the ſame effect. A farmer in New Hampſhire, who had overworked a fat ox a few years ago in the time of harveſt, killed him and ſent his fleſh to market. Of four and twenty perſons who ate of it, fourteen died, and chiefly with diſeaſes of the ſtomach and bowels. Putrid exhalations produce obſtructions and ulcers in the livers of cattle, ſheep and hogs which render them unfit for aliment. They are moreover always unhealthy during the ſeaſon in which they propagate their ſpecies; hence the wiſdom of that church which

* General Obſervations on the Art of Veterinary Medicine, p. 16, 17.

ſubſtitutes fiſh for fleſh during a part of the ſpring months. Even the heats of ſummer, in middle climates, leſſen the wholſome quality of fleſh,—hence the propriety of living chiefly upon vegetables with a ſmall portion of ſalted meat during the ſummer and autumnal ſeaſons.

6th. We are further called upon to ſtudy the cauſes, ſeats, and remedies of the diſeaſes of domeſtic animals, by the duties which we owe to our country and to humanity. The products of agriculture and commerce are often leſſened by a fatal epidemic, brought on by diſeaſes which blaſt the character of animal proviſions; and many poor families have been left to ſuffer all the evils of penury and famine, by the death of a ſingle horſe, upon whoſe labor, of a cow, upon whoſe milk, or of a hog upon whoſe fleſh, they had relied excluſively for ſubſiſtence, all of whom perhaps periſhed by diſeaſes that might have been cured.

7th. By extending our knowledge of the cauſes and cure of the diſeaſes of domeſtic animals, we may add greatly to the certainty and uſefulneſs of the profeſſion of medicine as far as it relates to the human ſpecies. The organization of their bodies, the principles of animal life, and the manner in which the remote and proximate cauſes of diſeaſes produce their morbid effects, are the ſame as in the human body, and moſt of medicines produce in them, and us, nearly a ſimilar operation. Their acute diſeaſes are the ſame as ours. They are ſubject to epidemics from an impure atmoſphere as well as from contagions. Fevers, catarrhs—hæmorrhages—dyſentery—dropſy—ſcrophula—vertigo—madneſs—worms, ſtone, hydrophobia and apoplexy, affect horſes, horned cattle, ſheep, hogs and dogs. The rheumatiſm, angina and tetanus affect horſes. Cows are ſubject to diabetes. Cancers have been obſerved in dogs. Cats ſuffer and die from a

diſeaſe which appears to be a form of bilious fever. Cutaneous eruptions and ſores are common to them all. In ſhort, when we except the diſeaſes which are the effects of certain trades and profeſſions, of intemperance, of the operations of the mind, and of a peculiar function in the female body, there is ſcarcely a form of diſeaſe mentioned in our ſyſtems of noſology, but what is to be met with in domeſtic animals.

To encourage us to extend to them the benefits of medicine, let us attend to the light and knowledge which ſeveral branches of our ſcience have already derived from them. During thoſe ages in which it was deemed criminal to diſſect a human body, the bodies of domeſtic animals afforded the only ſources of inſtruction in anatomy and phyſiology, and even ſince thoſe ages of ignorance and prejudice have paſſed away, many important diſcoveries have been derived from the ſame ſources by accident or deſign.

The diſcovery of the ſalivary glands in an ox by Dr. Wharton; of the fallopian tubes in a ewe by Rufus; of the thoracic duct in a horſe by Euſtachius; of the lacteals in a kid by Eraſiſtratus, and of the pancreas in a turkey, by Dr. Maurice Hoffman, led to the diſcovery of the ſame parts in the human body; and it is well known that the circulation of the blood, and the periſtaltic motion of the bowels in man, were firſt ſuggeſted by experiments and obſervations upon thoſe functions in ſome of the above named animals.

Many uſeful hints have been taken from the inſtincts of domeſtic animals. They generally retire to places of ſilence and darkneſs, and diſcover an unwillingneſs to move, and to eat, when indiſpoſed, and thereby teach us the advantages of retirement, reſt and abſtinence in the beginning of acute diſeaſes.

The approach of epidemics is often known by the ſickneſs of certain domeſtic animals, or by their deſerting our habitations.

Many uſeful remedies for the cure of the diſeaſes of the human body, have been diſcovered by obſerving their ſalutary effects upon domeſtic animals. The hellebore was introduced into practice as a purge, in conſequence of its purging qualities having been obſerved in the goat. The uſe of the ſeton in certain diſeaſes of the human body, was firſt ſuggeſted by its efficacy in the diſeaſes of cattle. The benefits of frictions in glanduar diſeaſes, are pointed out by the improvement in the quality of the milk, and the increaſe of its quantity, which are obtained by currying the cow.

The benefits of faſting in fevers, are ſtrongly urged by the ſlow putrefaction of the fleſh of domeſtic animals, which are deprived of food for ſeveral days before they are killed.

The benefits of wakefulneſs, and a ſtanding poſture in curing madneſs, are ſuggeſted by the practice of ſome of the farmers in England, who tame the moſt intractable and vicious horſes, by confining them in a pound, and keeping them awake and upon their feet, by pricking them with a ſharp nail, for three or four days, whenever they ſhew a diſpoſition to ſleep or to lie down.

The cure of madneſs in a dog, by means of a profuſe hæmorrhage which followed the cutting off his tail, ſuggeſts the propriety of copious blood-letting in the hydrophobia. Perhaps a remedy uniformly certain in that awful diſeaſe, may be reſerved to reward the ſucceſsful application of induſtry and humanity, to its cure, in the affectionate centinels of our houſes and our lives.

The ſafety of bloodletting in old people, is deducible from the appearances of inflammation which are diſcovered in the bodies of old animals that die of acute diſeaſes. The famous race horſe Eclipſe, ſo long known and celebrated at New Market in England, died in the 26th year of his age of a colic, after two days ſickneſs. Upon diſſecting his body, not only the whole aliementary canal, omentum and meſentery, exhibited marks of violent inflammation, but the ſtomach, liver, ſpleen, lungs, blood veſſels and glands, all diſcovered the ſame, and other effects of the higheſt degree of morbid excitement.* Many other inſtances of the light which the anatomy, phyſiology, and remedies for the diſeaſes of domeſtic animals have ſhed upon medicine, ſhall be mentioned from this chair in our lectures upon the inſtitutes and practice of phyſic.

8th. We are bound to ſtudy the means of preſerving the health of domeſtic animals, by all thoſe precepts in the Old and New Teſtament, which recommend kindneſs to them, and protection from outrage and oppreſſion. A portion of the humane ſpirit of thoſe precepts has pervaded all countries, and deſcended in a particular manner to the nations of the eaſt. One of the tales of a philoſopher of India, has recorded this fact in a ſtriking manner. A traveller who was permitted to viſit the place of torment for wicked men, ſaw there every part of the body of a man of high rank in flames, except one of his feet. Upon aſking the reaſon why that part of his body alone was exempted from the rage of the fire, he was told, that the only kind action that man had performed during his whole life, was to liberate a lamb which had been entangled by one of its feet, by means of a briar, in croſſing a field, and that as a reward for that act, his foot was exempted from puniſhment.

* Vial's elements of the Veterinary art, p. 9, 10, 11.

I proceed in the ninth and laſt place, to mention a reaſon for making the health of domeſtic animals the ſubject of our ſtudies and care, which I ſhould heſitate in delivering, had it not been ſanctioned by the name of a man whoſe diſcoveries in phyſiological, metaphyſical, and theological ſcience, mark an æra in the achievements of the human mind; I mean the great and good,—I had almoſt ſaid the inſpired Dr. Heartly——And that is, their probable relation to us in a reſurrection after death, and an exiſtence in a future ſtate. I ſhall read a ſhort paſſage from the Doctor's works upon this ſubject. After expreſſing a doubt concerning the redemption of the brute creation, he adds, "However, their fall with Adam, the covenant made with them after the deluge, their ſerving for ſacrifices for the ſins of men, and as types and emblems in the prophecies, and their being commanded to praiſe God, ſeem to intimate that there is mercy in ſtore for them, more than we may expect, to be revealed in due time."*

In favor of theſe remarks of Dr. Hartly, it may be ſaid, that as moral evil and death accompanied each other in the human race, they are probably connected in the brute creation—That they poſſeſs nearly all our vices and virtues; that the perfection of the divine government required that their vices ſhould be puniſhed and their virtues rewarded; that reparation ſhould be made to them for their accumulated ſufferings in this world; and that the divine bounty diſcovered in the gift of their pleaſures would be rendered abortive, unleſs they were placed in a ſituation to make returns for them, in praiſe and gratitude in a future ſtate of exiſtence.

It is alike foreign to my inclinations, and to the deſign of this lecture, to enter further into this queſtion. To ſuch of

* Hiſtory of Man. Vol. ii. p. 436.

you as wiſh to ſee all the arguments that are urged in its favor, from reaſon and revelation, I beg leave to recommend the peruſal of an eſſay in the works of Dr. Hildrop, a learned and pious clergyman of the church of England, intitled "Free thoughts upon the brute creation." In whatever way the controverſy may be decided, I ſhall only add, that a belief in the opinion ſuggeſted by the phyſician, and defended by the divine, whoſe names have been mentioned, is calculated in no one inſtance to do any harm, but on the contrary, much good, by increaſing our obligations to treat our domeſtic ſubjects with tenderneſs and care. If the opinion be erroneous, let the juſtice and mercy of the SUPREME BEING, in his conduct to his brute creation, remain unimpeached. The divine government in this world, may be compared to the dreary proſpect of an extenſive and highly cultivated country, on a winter's day. The laſt revolution of our globe, will clothe this proſpect with all the beauties of the vernal, and all the products of the autumnal months It will then appear that the apparent diſcord in the *being* and *end* of all intelligent and animated creatures, was

——————"Harmony not underſtood;"

And that all their ſufferings were a neceſſary part of "univerſal good."

But if the claims of domeſtic animals be ſo numerous, and the advantages of attending to their health be ſo great, and above all, if their high deſtiny hereafter be in the leaſt degree probable, it may be aſked, why do we doom them with ſo much cruelty to a premature death, and afterwards feed upon their fleſh? I anſwer, that by deſtroying them we prevent their periſhing by hunger, for in the preſent ſtate of cultivation of our earth, there would not be ſubſiſtence for them and their offspring for more than a few years, by which means their ſpecies would

ſoon be extinct. By thus multiplying their numbers, we multiply life, ſenſation, and enjoyment. We moreover prevent the pains of a gradual death from ſickneſs, and the miſeries of a helpleſs old age. To deſtroy them by the knife, therefore, and to uſe them as a part of our food, is ſo far from being cruel, that it is an act of kindneſs and benevolence to them.

To the propoſal for ſtudying the diſeaſes of domeſtic animals, it may be objected that their want of ſpeech will forever prevent their imparting to us an account of the ſeats and ſymtoms of their diſeaſes. This objection, I am aware, will be urged by thoſe phyſicians who believe that every diſeaſe has a ſpecific proximate cauſe, and requires an appropriate remedy; but ſtudents of medicine, who believe that all diſeaſes have *one* proximate cauſe, will find no difficulty in diſcovering their exiſtence and force in dumb animals. The full or frequent pulſe, the loſs of appetite, the dejected head, and the languid and watery eye, are certain marks in all brute animals of one of the moſt frequent diſeaſes with which they are affected, that is fever. The watery eye, an inability to bark, or barking with a ſtertorous hoarſneſs, indicate the approach of madneſs in the dog. The elevation of the hair on the back of a cat, and its not falling upon its feet when thrown from a moderate hight, are the premonitory ſigns of that diſeaſe which has lately been ſo fatal to that ſpecies of animals in Europe and America. The tail of a horſe loſing its regularity of motion from ſide to ſide, indicates that he is indiſpoſed, and the part in which his diſeaſe is ſeated is pointed out, by one of his ears inclining backwards to the ſide affected. In acute pains, particularly from the colic, he bites his manger. The ſeat of diſeaſes in the abdomen where the ſigns are abſent, may be known by preſſing the hand upon the whole belly of the animal. It will diſcover marks of pain, when the diſeaſed part is preſſed. Diſeaſes

of the head, lungs, kidneys, limbs and ſkin, are as eaſily known as the ſame diſeaſes are in the ſame parts of the human body.

There are indeed circumſtances, which favour our acquiring a more accurate knowledge of the diſeaſes of dumb animals than of thoſe of own ſpecies. From the cauſes formerly mentioned, the number of their diſeaſes is more limited, and their ſymptoms are more obvious, for they are not multiplied, nor complicated by intemperance in eating or drinking, nor are they under the influence of paſſions which ſuſpend or alter them, and in ſome inſtances, to prevent their evolutions.

The ſeats of their diſeaſes, moreover, are more perfectly known from the greater facility of diſſecting and examining their bodies after death. Again there are circumſtances which favour the operation of medicine upon them, of which we are deprived in our fellow creatures. Theſe are, no prejudices againſt the names or taſte of medicine,—a rare rejection of them after they have been received into the ſtomach, and the abſence of all fear and ſolicitude, about the iſſue of their diſeaſes.

I have then gentlemen laid before you, a brief detail of the obligations we owe to our domeſtic animals, and the reciprocal advantages to be derived from extending to them the benefits of the ſcience of medicine. In performing this taſk, I have endeavoured to become the organ of ſpeech for the dumb, and a ſuppliant for creatures that are unable to plead for themſelves.

Permit me to recommend the ſubject to your attention in your future ſtudies. From the knowledge you will acquire of

the anatomy of the human body in this Univerſity, of the laws which govern its economy, you will eaſily comprehend the ſmall deviations from both, which take place in the bodies and functions of inferior animals. By acquiring this kind of knowledge, you will add to the reſources of medicine as far as it relates to the human body, and by diſſeminating it gratuitouſly in your neighbourhood, you will become the benefactors of your country.

For a while your knowledge in this branch of ſcience, muſt be acquired by reading, obſervation and experiments; for as yet no ſocieties or ſchools have been eſtabliſhed for cultivating, or teaching it in the United States.

In all other countries, it has accompanied the advanced ſtages of civilization. In Greece and Rome, the neceſſity of offering ſuch animals only in ſacrifice, as were perfectly ſound, added to the motives for taking care of their health. The Arabians cultivated veterinary medicine with nearly the ſame zeal that they did the medicine of the human body. In France and Germany the health of domeſtic animals, has for many years been a part of the ſtudies of regular bred phyſicians. In St. Domingo, a ſociety called the "Philadelphians," was eſtabliſhed many years ago, conſiſting chiefly of phyſicians, whoſe principal buſineſs was to inveſtigate and cure, what they called epizootic diſeaſes, that is the diſeaſes of domeſtic animals. They favoured the world with one valuble publication upon them, before the civil war in that Iſland put an end both to their labours and their name.

A veterinary ſchool has been lately eſtabliſhed in London, under the patronage of ſome of the moſt reſpectable noblemen,

private gentlemen, and phyſicians in the Britiſh nation. Already it has diffuſed a great deal of knowledge through Great Britain, particularly of the diſeaſes of the horſe. Of this knowledge, a conſiderable portion has fallen to the ſhare of the farmers and farriers, much to the advantage of that noble animal !*

While I lament the want of a veterinary inſtitution in our country, I am happy in an opportunity of mentioning that the diſeaſes of domeſtic animals have not eſcaped the notice of the agricultural ſociety of Philadelphia. They have recommended the ſtudy of them in ſtrong terms, in their late addreſs to the phyſicians and citizens of the United States; and it would be an act of injuſtice not to acknowledge, that it was in conſequence of the excellent remarks contained in the part of the addreſs to which I have alluded, being impreſſed upon me with peculiar force by the enlightened and patriotic Preſident† of that ſociety, that I was led to ſelect the intereſting ſubject of our lecture for the preſent occaſion.

But in vain will be the efforts of public bodies, and private individuals to diſſeminate veterinary knowledge in our country without a proviſion for regular and oral inſtruction upon it.

From the public ſpirit of the truſtees of our Univerſity, and particularly from their diſpoſition to promote every branch of ſcience connected with medicine, there is reaſon to believe,

* The Dublin ſociety of arts have lately eſtabliſhed a profeſſorſhip of the veterinary art, and endowed it with a ſalary of fifty pounds a year, with a dwelling houſe for the profeſſor, (Dr. Peele,) valued at ſixty ſix pounds ſterling a year. Carr's Stranger in Ireland. p. 99.

† Richard Peters, Eſqr.

that it is only neceſſary to lay before them the advantages of a veterinary chair, in order to inſure its eſtabliſhment.

Should the ſubject of the diſeaſes of domeſtic animals, be connected with inſtruction upon the principles of agriculture, and implements of huſbandry, ſo as to conſtitute what is called in ſome European Univerſities, "economics," or a ſyſtem of rural economy, it would form a ſtill more uſeful branch of education, not only for phyſicians, but for private gentlemen. I have lived to ſee the medical ſchool of Philadelphia emerge from ſmall beginnings, and gradually advance to its preſent flouriſhing condition, but I am not yet ſatisfied with its proſperity and fame, nor ſhall I be ſo, until I ſee the veterinary ſcicence taught in our Uuiverſity.

One of the patriots and heroes of the American revolution, who died ſuddenly a few years ago, in his barn yard, ſaid with his laſt breath to his ſervant who ſtood by him, "take care of the creatures." Nearly in the ſame words which dictated this kind direction, I ſhall conclude this lecture. TAKE CARE OF THE HEALTH OF DOMESTIC ANIMALS.

Obſervations on ſome Morbid affections of the Liver.

By DR. FELIX PASCALIS, *of New York.*

MORBID anatomy is of an immenſe practical utility. Should we not find the genus, the claſſification nor the name of a diſeaſe, it ſurely leads us, and is a better guide than

any of the newly eſtabliſhed noſologies. In the two following caſes, the one of an almoſt entire deſtruction of the liver, and the other of its monſtrous growth, after having conſidered all their reſpectively inſtructive circumſtances, we are induced to admit a vaſt number of intermediate affections to which that viſcus remains expoſed.* They are no doubt propottionate to the number and importance of it functions.

It is not a little aſtoniſhing that the phyſiology of the liver ſhould remain as yet incomplete and obſcure; but while we decline entering into any explanatory theory of its functions† let us be permitted to notice only two principal things among them, and which cannot be controverted. The one is the flowing of the bile, which is inceſſantly ſecreted in the liver, into the alimentary tube; and the next is the proceſs of *purification* which venous blood undergoes in the liver, before it paſſes through the lungs to be made new arterial blood. As for the collection or abſorption of lymphatic fluids from that voluminous viſcus and from the gall bladder, which by many has been ſuppoſed to take up the bile, and tranſmit it to the thoracic duct, to conſtitute jaundice, we ſhall actually ſay nothing, expreſſing only our diſſent from ſuch a doctrine. Having loſt throughout the vaſcular ſyſtem whatever elements conſtitute its vitality, or its oxygene, &c. it appears that other con-

* However different may be the organization of the liver from that of the gall bladder, their intimate connection ſhews how equally neceſſary they are to one principal function, and I do not diſcriminate thoſe viſcera, when I ſpeak of the liver only.

† The ingenious theories of Ruſh, and Dr. J. Williams, have not eſcaped my notice. They are both well calculated to direct medical and phyſiological inquiries on a truly untrodden ground. For the latter, Vide, Lond. Med. and Phys. Journal, No. 100.

ſtituent principles are ſet looſe that they may be eaſily ſeparated and evolved into bile; indeed if we were to infer from the well known ſtate of ſtagnated blood in the *reticular* membrane of the ſkin or echymoſes, to wit, from its change of dark red, into a green and yellow colour, we might conclude that as ſoon as venous blood ſtagnates, it depoſites its yellow ſerum, &c.

Therefore the large capacity of the liver, the ſmall ſhare of irritability and ſenſibility which it is endowed with, are neceſſarily favourable circumſtances for the formation of the bile. Now ſuppoſe the circulation of the blood from the *vena portarum*, is obſtructed through the liver, venous blood ſhall inſenſibly alter its colour and effect a jaundice all over the ſurface of the body, in thoſe minute veſſels of the reticular membrane which firſt participate in the rapidity or danger of circulation. That primordial cauſe cannot effect ſometimes but a dark red ſuffuſion, attended with various ſorts of eruptions or effloreſcences, as it happens to a great number of thoſe intemperate perſons who drink more than they eat, and therefore conſume very little bile.

On the other hand, thoſe perſons who from a certain morbid ſtate of the ſtomach derive a canine or voracious appetite, require a greater quantity of bile for their digeſtion; in them venous blood paſſes much quicker through the liver, hence they are always of a pale colour and thin habit of body; with theſe obſervations all founded upon facts, we can eaſily account for thoſe temporary and ſudden jaundices which take place in conſequence of violent cauſes, paſſions, fevers, worms, concretions of bile, and alſo from ſpecific poiſon introduced into the venous blood through the reti-

cular ſyſtem. I have it from reſpectable authority that the bite of certain venomous ſnakes in Martinico has been known to be attended with conſiderable jaundice; and the celebrated Dr. Mead, who has profeſſedly treated of the venom of certain reptiles and inſects, has mentioned the frequent occurrence of the ſame ſymptom. If venous blood is once infected in the reticular ſyſtem or elſewhere, it may by irritation, or chemical affinities, be decompoſed, and depoſite its yellow ſerum, or if it reaches the liver, it may diſturb or ſuſpend its function. On the other hand we are authoritatively* induced to believe that many cutaneous eruptions are ſymptomatic to a diſeaſed liver; this is further evinced in the caſes of drunkards; it muſt conſequently be very probable that the ſpecific poiſon of the *Herpes* kind could be tranſported and inoculated into the liver, and cauſe its deſtruction, as happened in the little girl whoſe caſe I ſhall hereafter relate.

We may now conclude that the action upon the liver, of the ſtomach, of digeſtion and of certain ſubſtances or aliments, muſt prove very great indeed. It is therefore my duty to advert eſpecially to the uſe of ſpirituous liquors. They have ſome chemical laws and peculiar tendencies, (as it is well known the alcohol in them, is naked in a great meaſure and very abundant,) as that of thickening the albumen and keeping undiſſolved every kind of animal jelly. Now if we obſerve that theſe two principles conſtitute animal food, we muſt conclude that if they are too much diluted with alcoholic fluids, they cannot be diſſolved with all other digeſtible mat-

* I ſome years ago, read an excellent paper, in one of the Engliſh Medical Journals, which ſupported that opinion with perſpicuity and great correctneſs of obſervation. I have ſince miſlaid my note and forgot names and dates. Whoever may recollect that eminent authority, will not, I hope, accuſe me of plagiariſm.

ters, and muſt be precipitated as excrementitious reſults; therefore a proportionately ſmaller quantity of bile is really employed in the digeſtion of drinkers. Hence the continual redundance of that animal fluid in ſimilar ſubjects, and all the concomitant ſymptoms of red and yellow ſuffuſion on the reticular membrane, and of various ſorts of eruption. Their liver and gall bladder are ſo much infracted and diſtended with bile, while the venous blood does not ceaſe to ſecrete it in its reſervoirs, that they ſeldom eſcape attacks of hepatitis, or the liver muſt enlarge proportionately. Whether alcoholic fluids being frequently poured into the ſtomach and waſhing conſtantly the mucous membrane of the inteſtines, have a peculiar tendency to fix in the liver the albumen and gelatine of the blood, and to increaſe thereby the bulk of its parenchyma, I certainly ſhall not determine; but that ſuch are the facts derived from obſervations among the various liver complaints to which drinkers are expoſed, I am happy to find it cannot be contradicted. We may add other authorities. The epicures of old knew how to procure luſcious morſels of overgrown livers of geeſe, by feeding them with alcoholic mixtures. That practice is well known yet in the French country called Alſace. They improve it ſtill by keeping them in warm and dark places.

Heat increaſes the ſecretion of bile becauſe it accelerates the decompoſition of venous blood, juſt as it promotes the ſuppuration of the latter as ſoon as it is freed from the action of the vaſcular ſyſtem.* To that ſame law we muſt aſcribe the nume-

* If that theory is true which ſuppoſes that the liver not only ſeparates the bile from the blood, but alſo a great portion of the chyle which has not yet been waſted when the blood arrives in it, it would give a key to unveil the myſteries of ſuppuration and granulation of wounds; for laudable pus could be nothing elſe but good chyle mixed with a ſmall proportion of bile, and the very element which added to a little arterial blood is turned into ſound and good fleſh, &c.

rous and fatal diſeaſes of the liver in India, eſpecially in Batavia. Chiſholm tells us that the hepatitis of Weſt-India Iſlands is always attended with enlargement of the liver. In the ſubjoined caſe however the overgrown liver was not in the leaſt inflamed, but the patient died with a gaſtritis.

CASE FIRST.

Of a Liver uncommonly enlarged.

Mrs. H. S. aged 37 years, a well formed perſon and of a ſound conſtitution, the mother of four or five children, had been in the early period of her life, expoſed to the example and practice of drinking ſpiritous liquors. She ſoon adopted that pernicious habit, until ſhe abſolutely injured her health. From time to time ſhe became ſubject to ephemeral fevers, moſtly attended with mental derangement. Theſe took afterwards more ſerious ſymptoms, and laſted a certain period of days, during the intermiſſions of which, the patient was really inſane. Many of theſe attacks took place during the laſt ſix years of her life. When recovered, ſhe evinced a ſincere and a firm determination to renounce her former habits, which no reaſon whatever, no anxiety of mind, no domeſtic troubles could provoke, as ſhe was aſſociated to an honeſt and indulgent huſband. But ſhe ſeemed to be under the moſt inſuperable influence, as it may be inferred, from the ſtate of her feelings, when ſhe was deprived of a powerful ſtimulus. She continued thus in that ſucceſſion of errors, of diſeaſe and of vain reſolutions, until ſhe was taken with violent ſymptoms of gaſtritis, or inflammation of the ſtomach. They laſted three days without intermiſſion, and baffled every poſſible remedy. In that ſhort ſpace of time ſhe was copiouſly bled every day, and ſhe died, apparently exhauſted with puking. No appearance of jaundice had ever taken place in this patient. As no ſatisfactory account could be given of ſo violent a death, it was

thought proper to inſpect the alimentary canal; for liquors clandeſtinely procured might have contained ſome noxious ſubſtances, or by their bad quality produce poiſonous-like effects.

In the preſence and with the help of Dr. J. E. R. Birch of this city, a longitudinal inciſion of the external teguments was made from the ſternum between the *Claviculæ*, down to the pubes, which diſſected laterally, pulled and folded, the ſternum was eaſily ſeparated from the ribs and raiſed. Now the thoracic with the abdominal cavities were all at once laid open and expoſed to view.

At firſt, nothing but an immenſe liver was ſeen. By raiſing and diſtending the diaphragm, it had diſlodged the lungs from the anterior part of the thorax. Under it the ſtomach was ſqueezed backwards, and the whole maſs left no ſpace unoccupied in the left hypochondrium; by it, the great arch of the colon was much lowered, ſqueezed, inflamed, and ſtrictured.

However large this maſs was, and paler than natural, it ſhewed no mark of diſeaſe internally or externally, nor was the gall-bladder overgrown in proportion, although it was much diſtended with black and ropy bile.

The ſtomach was the next object of our inſpection. The whole pouch having been extracted, it appeared contracted, but offered internally the moſt intenſe ſtate of inflammation, it was nearly black, and the *rugæ* were lined with a thick and purulent mucus. All the inteſtines, the ſpleen, and the bladder, were ſmaller than natural. The pericardium itſelf was leſs than one third of that of an adult, offering the ſingularity of

the phrenic nerve inſerted on its ſurface, not much thicker than a common thread; in fine, the uterus was reduced to the ſize of a ſmall pear, hard and very white, and its ovaria proportionately diminiſhed, offered a few of the ova, protruding as it were by the effect of preſſure. The weight of that enormous liver was judged to be no leſs than fifteen pounds.

We were now ſatisfied that the ſtate of preſſure in which the ſtomach was, under the weight and growing ſize of the liver, had determined the inflammation; and that under the ſame cauſe, the functions of all the other viſcera being checked, their moles movenda required inceſſantly, the addition of new ſtimulants, without which the patient muſt have felt herſelf to be under the horrors of agonizing debility.

CASE SECOND.

Of a Liver nearly deſtroyed by Tubercles.

THE girl E. G. aged 11 years, had all the appearance of a ſound conſtitution, ſhe could even be called a robuſt child; having been neglected during ſome time, ſhe had been expoſed to the effects of unclean beds and body clothes, and ſhe ſeemed to have contracted an eruptive diſeaſe, which having attracted the attention of a friend, ſhe was was put under the uſe of ſome remedies.

This itch partially diſappeared, but whether renewed or palliated only, ſhe ſoon appeared to grow weaker and ſickly. I

am informed that during many weeks, her caſe was conſidered as fever and ague.

To this ſucceeded a deep yellow ſuffuſion all over the body; an habitual coſtiveneſs, her fæces being like putty, and much harder too. When I firſt ſaw her, the fever was remitting, and ſhe experienced by times a great want of food. Had all theſe laſt ſymptoms marked the beginning of her complaint, it had been juſtly inferred that ſhe had worms; but all the aforeſaid circumſtances, and various appropriate remedies which had been reſorted to, rendered that ſuppoſition very vague, yet, it was again indulged in, but without the leaſt relief. Other phyſicians thought that bilious concretions had interrupted the flowing of the bile. To this I obſerved, that children might be ſubject to any kind of limy concretion, but that the rapidity of their circulation and digeſtion muſt always oppoſe thoſe of the bile. No ground whatever, no indication could open any favourable proſpect; while her ſymptoms were daily growing more alarming; when the little unfortunate, who was groaning under excruciating pains, which ſhe traced to the region of the ſtomach, fell delerious, and ſhortly after expired.

This certainly was an anomalous caſe.

The body exhibited no marks of emaciation, but on diſſection, the liver was found almoſt deſtroyed, not by decay or ſuppuration, but by tubercles, which appeared on the ſurface like circular contractions, which ſucceeded to each other, while the parenchyma was waſting or abſorbed.

The little maſs remaining, about one third of the common ſize, offered no ſhape of great or ſmall lobes; it was darker

than natural. Its contracted pori-biliarii contained black blood, and the gall-bladder affixed to it, was half wrinkled. The ſtomach was not much altered, but the whole inteſtinal canal and omentum appeared in the moſt complete ſtate of inflammation. The whole colon was diſeaſed and conſiderably ſtrictured; the pulmonary veſicles were filled with dark blood, and not otherwiſe diſeaſed.

Dr. Matthew Baille, in his morbid anatomy ſays, "that the common tubercles in the liver, are hardly ever met with in a very young perſon; that it is likewiſe more common in men than in women, that it ſeems to depend upon the habit of drinking."* The above caſe is in every point ſubverſive of his doctrine; the life of a man, is not ſufficiently long to embrace as many facts, as would be neceſſary to circumſcribe cauſes and effects in the hiſtory of human diſeaſes: whoever writes a book, finds it very convenient thus to form arrangements and claſſifications, which if not very correct, will one day perplex our judgment, when we are called upon to relieve or remove a complaint.

New York, Nov. 12, 1807.

* Vide, page 214, Lond. edit. 1807.

Case of Hepatic Affection. *By* Dr. J. L. Stratton.

Burlington, (N. J.) July 14, 1807.

Sir,

If the following ſtatement of a fact ſhall be conſidered of ſufficient importance to merit an inſertion in your Muſeum, it is at your ſervice.

Near the cloſe of December laſt, a negro man who had formerly reſided in the Weſt-Indies, applied to me for medical aid, affected with cough, ſhortneſs of breath, and fever. On examination, a protuberance was to be felt directly under the umbilicus, of the ſize of the head of a full grown fœtus, and to the touch as hard as iron. Apprehending his complaint to be a ſchirrus in ſome of the abdominal viſcera, after taking away eight ounces of blood, and opening his bowels with calomel and jalap, I gave the nitrous acid, and directed a bliſter to the part diſeaſed, which, after raiſing, was to be dreſſed with mercurial ointment. While perſiſting in the above courſe of medicines the ſymptoms were mitigated, but he could not be prevailed upon to continue them any length of time.

He was conſtantly affected with a moderate cough and difficult reſpiration, accompanied with a diſcharge of limpid phlegm. He never experienced ſevere pain, but what pain he felt was ſeated in the unſound part; he always denied having pain in his ſhoulder, which is frequently a ſymptom of that diſeaſe, and was ſeldom prevented from purſuing his buſineſs, (which was that of a barber) more than one or two days at a time.

On the 10th inſtant, he was ſuddenly ſeized with delirium, and ran into the ſtreet naked. On taking away eight ounces of blood

he became rational, until the next morning at five o'clock he underwent a ſimilar paroxyſm of inſanity, that laſted about the ſame ſpace of time as the preceding one, and then left him rational.

On the 12th, at five o'clock in the morning, he became ſpeechleſs, and continued ſo until 10 o'clock the 13th, and then expired apparently from ſuffocation.

In the preſence of Drs. E. Shippen and Cole, I opened the abdomen; the liver preſented an appearance truly aſtoniſhing; it was greatly enlarged, and in a complete ſtate of ſchirroſity, except a very ſmall part of the concave ſide of the left lobe, and weighed 12$\frac{3}{4}$ pounds. The gall-bladder perfectly natural and contained a quantity of dark coloured viſcid bile.

After raiſing the ſternum the lungs appeared but little different from the common ſtate, with the exception of a few ſmall *pellicles* on the right lobe filled with extravaſated air.

I was informed by him that it was five years ſince he became diſeaſed, and that the affection was at that time about the ſize of an egg.

He was not remarkably coſtive, and the uſual quantity of aperient medicines would operate upon his bowels. His appetite and digeſtion were generally good, and he was not emaciated.

What might have been accompliſhed by the powers of medicine at the commencement of the diſeaſe, I cannot ſay; but at the ſtage of the complaint in which he was when I firſt ſaw him, I am acquainted with no remedy that I think could

have reſtored him to health. I believe he was for the moſt part temperate, and eat but little animal food.

I am, ſir, yours,

JOHN L. STRATTON.

DR. JOHN REDMAN COXE.

Caſe of Flores Zinci taken by miſtake for Magneſia, in large quantities without any effect. *By* DR. M. WENDELL.

New-York, Auguſt 1807.

SIR,

OBSERVING in the laſt number of the Medical Muſeum, a caſe of epilepſy, "highly alarming," and threatening immediate deſtruction, in which the "flores zinci were given with empiric boldneſs," and apparently to the complete eradication of that diſtreſſing diſeaſe, I am induced to offer a few remarks on the efficacy of this *ſuppoſed* powerful medicine.

From repeated trials of the flor. zinci in epilepſy, and other ſpaſmodic affections, and from its *never* having the excluſive claim of curing either; being generally preceded by veneſection, cathartics, &c. or accompanied with ſome powerful tonic or aſtringent, I have adopted the opinion of the celebrated Cullen, who ſays—"The flor. zinci were introduced into practice by the late Dr. Gaubius, as an antiſpaſmodic, or as I conſider it as an aſtringent or tonic. In epilepſy they *never* anſwered with Dr. G. himſelf; nor have they that I know of, though given in much larger doſes than he ſeems ever to have employed. In my own practice, (ſays Dr. C.) I have not found them of remarkable benefit, nor do I find my fellow practitioners giving a more favourable report."

To thoſe not habituated to giving large doſes of any powerful medicine, the exhibition of "uncommon doſes," as in the caſe alluded to, muſt appear raſh and unwarrantable. But may not the ſame opinions be entertained of ſome medicines, relative to their preſumed deliterious properties, which were formerly, of others? This may be applied to the different chemical preparations, as mercury, lead, &c. A few years ſince, the acet. plumb. was adminiſtered to the extent of $\frac{1}{16}$ or $\frac{1}{8}$ of a grain with a "trembling hand" and an anxious expectance of a ſupervening colic, from this "deadly poiſon," in ſimilar caſes, in which at preſent, it is given from 5 to 8 grains with confidence, ſucceſs, and ſafety; and ſo with many others.

To convince you that my opinion relative to the inefficacy of the flor. zinci is not premature, and in what eſtimation is held the "empiric boldneſs" of the author of the above communication, I will furniſh you with a caſe in which the flor. zinci were *accidentally* taken inſtead of magneſia uſt. in much larger doſes, and unprecedented in the annals of empiriciſm itſelf.

Mrs. B———, aged 35 years, of a delicate habit of body; having occaſional attacks of dyſpepſia, cardialgia, and coſtiveneſs, for which ſhe was in the practice of taking calcined magneſia.

Through inadvertance of the ſtudent, ℥ij. of flor. zinci were ſent, inſtead of the uſual quantity of magneſia. Of this ſhe took a pap-ſpoonful two or three times a day, agreeable to the urgency of her ſymptoms.

Viſiting her the ſecond day afterwards, ſhe obſerved that the magneſia was not the ſame ſhe had been uſed to, it being

gritty, and mixed differently with her drink. On examination it proved to be the flor. zinci; and on queſtioning the ſtudent, he acknowledged his miſtake. A day or two after I called again, anxious to know (for ſuch is the force of firſt impreſſions) whether its exhibition had been attended with any alarming ſymptoms, as muſt have occurred from the "uncommon doſes," in which it was taken, (not leſs than 30 grains two or three times a-day) on the ſuppoſition of its being ſo powerful a medicine; the only ſenſible effects they had on Mrs. B———, after ſtrict inquiry, were, a ſlight conſtriction of the fauces immediately after ſwallowing, which ſoon left her; and about 15 minutes after their introduction into the ſtomach, ſhe experienced a warm, glowing and rather agreeable ſenſation of that organ; they alſo had the effect of keeping her bowels in the ſame lax ſtate, as when the magneſia was taken. I avoided mentioning the miſtake till ſome time after. She imagined it had improved her health, and given her a better appetite. The two ounces were taken in leſs than a fortnight.

Poſſibly you may entertain doubts relative to the quality of thoſe flowers; to remove theſe, I herewith ſend half an ounce of the ſame parcel preciſely; theſe you may analyze, and if you think proper, give ſome to Profeſſor Woodhouſe, for his inſpection alſo.*

Yours, &c.

M. WENDELL.

DR. JOHN REDMAN COXE.

* From every external evidence of the ſpecimen ſent, there ſeems to be no reaſon to doubt the purity of the flores zinci employed—a part was given to Dr. Woodhouſe, who has not yet mentioned to me the reſult of his experiments on them.—*Ed.*

Obſervations on the Waters of Schooley's Mountain (N. J.)
By Dr. Lewis Sweitzer.

Springfield, June 24, 1807.

Dear Sir,

IF the following experiments are found worthy, you may give them a place in your Muſeum. They were made on the Springwater, near Hacket's-town, Schooley's Mountain, in September, 1803.

Experiment 1.

I took ſome of the common oak galls, macerated them in water, after which I poured off ſome of the liquor into a tumbler, added the ſpring-water gradually, until it turned it of a black colour, which is done almoſt inſtantly. Add tothis a little ſulphuric acid, to take up the iron, and it will become tranſparent; muriatic, and other acids, have the ſame effect. Theſe, and a number of other experiments made, ſhew the preſence of iron in the water.

Experiment 2.

I took about equal quantities of the mineral, and lime-water, and mixed them in a phial; the lime in the lime-water was ſoon precipitated; add to this a little ſulph. acid, and the lime will be taken up, held in ſolution, and be quite tranſparent. By this and other experiments to the ſame effect, I was led to believe the water to contain fixed air.

Experiment 3.

	oz.	dwt.	gr.
I filled a ſmall phial with brook-water, weighing	2	14	9
The ſame phial was filled ſpring-water, weighing	2	14	$5\frac{1}{2}$
Difference of ſpring water, lighter,			$3\frac{1}{2}$

The phial weighed, 1.oz. 6.dwt. 21.grs. Brook-water, 1.oz. 7.dwt. 12.grs. and the ſpring water, 1.oz. 7.dwt. $8\frac{1}{2}$.grs. This experiment ought to have been repeated, to be accurate, but my object then, was merely to ſhew the ſpring-water was lighter, which was my opinion before the experiment was made.

EXPERIMENT 4.

In a ſmall portion of the water, I poured ſome ſulph. acid, then added the volatile alkali; this was repeated and reverſed; but it did not form the cuprum ammoniacum or any thing like it, from which and other experiments, I am of opinion, it contains no copper, as by ſome ſuppoſed, from the taſte, ſmell, &c. I made a great number of other experiments, with a view to diſcover the true nature, and medical uſe of this water, but none of them appeared to throw much light on the ſubject, therefore thought them not worth noting down. The above experiments were made in the preſence of Mr. Upjohn, a conſiderable chemiſt, living near the ſpring, and a number of other gentlemen and ladies.

Obſervations and experiments, ſhewing the effects upon the human body, by often repeating on myſelf and others.

When drank, it promotes digeſtion and increaſes the appetite; it ſometimes increaſes the action of the arterial ſyſtem, and perſpiration; generally, the diſcharge of urine; it ſometimes purges, and proves emetic; it gives tone and vigour, and creates a general glow of heat in the body, after bathing, in thoſe of ſound viſcera; but when unſound, the contrary takes place, moſt probably from its great depleting effect upon the kidnies, and inviting too much heat to the ſurface of the body, which in part makes its eſcape during bathing, and accounts for the cold ſenſation after bathing, in thoſe having phthiſis pulmonalis and other complaints of the ſame nature.

From the above experiments, and from the effects, ſmell, taſte, and feel upon the ſurface of the body, I think it

evident the water contains iron, carbonic acid, with a conſiderable portion of bitumen, wanting its common portion of marine ſalt: the iron is moſt probably held in ſolution by the carbonic acid, mixed and ſuſpended in the water with the bitumen; to the latter, carbonic acid, and the great quantity of water generally drank, I think may be attributed the diuretic effect ſo common to this water. It ſeems to have a ſpecific effect upon the kidnies, and urinary organs, and in diſeaſes of theſe parts, will do much good, particularly in calculus, gleet, gonorrhœa; alſo in eruptions of the ſkin, rheumatiſm, and old ulcers. If buſineſs permits, I intend ſpending ſome time at the ſpring this ſummer, when I ſhall more particularly examine the water, the reſult I will let you know if you wiſh it.

I have made uſe of a number of our American vegetables, in the country, particularly of the podophyllum peltatum, which I have found an excellent worm deſtroying medicine. Theſe two years paſt, I have given it to a great number of children, combined with crem. of tart. to purge, and ſometimes with calomel after having the vaccine diſeaſe; I made particular inquiry, and in moſt caſes where I had reaſon to ſuſpect worms, it brought ſome from them.

With eſteem, I am
Yours, &c.
LEWIS SWEITZER.

DR. JOHN REDMAN COXE.

Caſe of Luſus Naturæ, by DR. THOMAS GRIFFITH.

Wilmington, (Del.) 7 *Month* 27, 1807.

ESTEEMED DOCTOR,

I HAVE thought it my place to communicate to thee, the birth of a very remarkable child, which came under my notice, and if deemed worthy a place in thy invaluable work

it is altogether at thy ſervice. On the 23d, day of the fourth month 1805, I was called upon, to deliver the wife of a certain Caleb Woodard, who reſides in the ſtate of Pennſylvania, Cheſter county, and townſhip of eaſt Marlborough. On making the neceſſary examination, found her to be in actual labour, with her ſeventh child. She was of a delicate habit, and thirty-three years old. The os uteri and its neighbouring parts were ſufficiently dilated, and the membranes protruding faſt, but could not aſcertain what part of the child preſented; as the formation was ſuch, and the part that offered, was ſo enormous, I was almoſt ready to conclude a ſafe delivery of the child would be inſurmountable. As the ſutures have ever been my guide in head preſentations, I with every attention ſought for them, but found them not: I then, feeling myſelf at a loſs what to do, reſolved ultimately to make it a footling caſe if I could accompliſh it, in preference to the crotchet, which ſeemed to be indicated. I commenced the operation, by introducing my hand, then broke the membranes and made the feet of the child, while floating in the waters, and delivered it to the hips the firſt pain, then making the neceſſary turns, accompliſhed the delivery in two pains after. The head was ſituated between the ſhoulders, without a neck, the breaſt very prominent, no hair upon the head, but covered with a ſhining ſkin, of a dark lived appearance, adhering extremely cloſe to the cranium; the os occipitis completely flat, and a bony role croſſed the ſuperior part of the os frontis, at the uſual determination of the hairy ſcalp; under which protuberance were placed the eyes, without the ſuperciliary arches, and of very conſiderable magnitude; they were red and ſtaring, noſe flat and ſhort, mouth not unnatural, the ears ſharp and long, preſenting forward; part of the upper and lower extremities viz. legs and arms, natural; but hands and feet, bore a reſemblance to the monkey tribe. It made a conſiderable ſtruggle when it viſited the world, and died in about ten minutes.

I examined the diſconſolate mother at a proper time, if ſhe had been frightened, in the early time of her pregnancy; ſhe anſwered in the negative, but ſaid ſhe had been in the Philadelphia Muſeum, and left it without having her mind impreſſed with any curioſity which ſhe ſaw there.

An expreſſion made by Dr. Vaughan of this place, in a caſe of luſus naturæ, very ſenſibly occurs to my mind; that man was not only fearfully and wonderfully made in general, but ſometimes grievouſly and wonderfully deformed.

I am with due reſpect,
thine to ſerve
THOMAS GRIFFITH.

DR. JOHN REDMAN COXE.

Account of a Monſter by DR. YATES, *communicated in a Letter to Profeſſor* WOODHOUSE.

Albany, June 15, 1807.

DEAR SIR,

I HAVE it in my power to communicate ſomething new and extraordinay to you.

A very extraordinary animal was produced by a three year old heifer, near the Unadilla river, in the weſtern diſtrict of this ſtate. On the 26, of laſt April, in the afternoon, the heifer exhibited ſymptoms of great diſtreſs, which increaſed, and urged an almoſt conſtant bellowing; this, together, with the great agony ſhe appeared to be in from her conduct, induced the owner to ſhut her up in the ſtable under the impreſſion that "ſhe was getting mad." Her bellowing continued till near day break; the owner ſuppoſing her dead, got of out bed and went with a light to the ſtable, when to his ſurpriſe he found her licking what he ſuppoſed was her calf; on a nearer approach he diſcovered its form different from what he expected, and attempted to take it up by the legs, when the heifer darted at

him with violence, ſtruck her hoof againſt the monſter's head and broke it; he however took it home, but is not poſitive whether it ſhewed ſigns of life, he thinks it did; he ſays he did not ſuſpect the heifer to be with calf.

The owner of the heifer ſold it to two countrymen, who brought it to this city and immediately procured a five gallon jar, put it in and filled it with ſpirits. I prevailed on the man to take it out and permit me to examine it for a few moments; he gratified me, and I ſhall endeavour to give you an outline of this monſter.

From the forehead over to the back of the neck, it very much reſembles a child; indeed the head from a back view would be miſtaken for that of a child. The noſe reſembles about as much that of a negro as of a calf, I think rather more.

The eyes (or rather ſockets without eye-balls) are ſituated about three inches from each ſide of the upper part of the noſe, in the ſide of the head, on a line with the os naſi.

It has no diſtinct upper jaw; a few looſe bones are felt immediately on the introduction of the finger into the mouth, under the noſtrils.

The under jaw extends about one inch beyond a line with the tip of the noſe, and meaſures in all about two and a-half or three inches, and is ſhaped like a harpoon, (thus ⋗). It has no tongue. The mouth inſide apparently rough, but feels ſmooth. Ears much like thoſe of a calf, though ſmall in proportion and placed unnaturally back, near, or on the neck; they are about two inches long, and one and a half broad.

The arms or fore legs reſemble the human; there is one joint more; it meaſures from the ſhoulder to the elbow about four inches; from the elbow to the next joint (which is half way between the elbow and hoofs) three inches; from thence three

inches to the wriſt; in this diviſion are two bones as in the human frame; from here the hoofs or webbed fingers begin to extend themſelves, dividing into five parts, diſtinguiſhing thumb and fingers, having at the extremity ſmall marks or ſpots where the nails ſhould have been, the ſubſtance of the hand or hoof the ſame as of the calf. From below the under jaw or chin down to the pubes, human; breaſt broad, abdomen *full.*

Immediately below the pubes, are two appendages like the teats of a cow, (and about as far apart from each other) or, from their flaccidity I might more properly compare each to a ſeparate infant ſcrotum; the one is as large again as the other.

No organs of generation—has an anus ſituated properly; and a ſmall tail about three or four inches above the anus up the back, about the thickneſs of a crow's quill, and an inch and a-half or two inches long.

From the haunches down to the knees apparently human, no knee pan, in other reſpects, down to the hoofs or toes, ſimilar to the arms and hands.

Its form evinces that its natural poſture in walking would have been erect! Tke ſkin appears exactly like the human, and the colour a darkiſh yellow. No hairs, excepting a little on the arms and legs, of a reddiſh caſt and hardly perceptible. At the firſt glance every one is impreſſed with its reſemblance to a negro child, and many ſuppoſe it the iſſue of a man with the heifer. I hope it will go to your city.

Yours &c,

CHRIS. C. YATES.

Dr. JOHN REDMAN COXE.

MEDICAL AND PHILOSOPHICAL REGISTER.

FOREIGN AND DOMESTIC.

Soho Square, Auguſt 9, 1806.

At a numerous meeting of the faculty, held this evening at the houſe of the Right Hon. Sir Joſeph Banks, Bart. K. B. Preſident of the Royal Society, &c. Dr. Harriſon laid upon the table the Anſwers he had received to the different circular letters tranſmitted to the public bodies and individual practitioners of the united kingdom, in purſuance of a former reſolution. He then preſented the following Plan for better regulating the practice of Phyſic in its different branches; which being read and conſidered, the ſubſequent Reſolutions were entered into.

PLAN.*

1ſt, "THAT no perſon ſhall practiſe as phyſician, unleſs he be a graduate of ſome univerſity in the United Kingdom, and has attained the age of twenty-four years. That he ſhall have ſtudied the different branches of phyſic in an univerſity, or other reſpectable ſchool or ſchools of phyſic, during the ſpace of five years, two of which ſhall have been paſſed in the univerſity where he takes his degree.

* The neceſſity of ſome regulations in the various branches of medicine, being ſenſibly felt by thoſe who have an opportunity of eſtimating the unbounded increaſe of empiriciſm amongſt us; and the ſubject having been introduced into our legiſlature during the preſent ſeſſion; although thrown out by ignorance, &c. the Editor preſumes the following remarks may not be altogether miſplaced.

2dly, " That no perſon ſhall practiſe as ſurgeon under three and twenty years of age, nor until he has obtained a diploma or licenſe from ſome one of the royal colleges of ſurgeons or other chirurgical corporations of the united kingdom. That he ſhall have ſerved an apprenticeſhip of five years to a practitioner in ſurgery, and afterwards have ſpent at leaſt two years in the ſtudy of anatomy and ſurgery in a reputable ſchool or ſchools of phyſic.

3dly, " That no perſon ſhall practiſe as an apothecary until he ſhall have ſerved an apprenticeſhip of five years to ſome regular apothecary, or ſurgeon practiſing as an apothecary; that he ſhall have ſtudied the different branches of phyſic in ſome reputable ſchool or ſchools during the ſpace of at leaſt one year, and ſhall have attained the age of twenty-one years.

4thly, " That no man ſhall practiſe midwifery, unleſs he has attended anatomical lectures twelve months, and received inſtructions for the ſame term from ſome experienced accoucheur, and ſhall have aſſiſted at real labours. And that no female ſhall practiſe midwifery without a certificate of fitneſs and qualification from ſome regular practitioner or practitioners in that branch.

5thly, " That no perſon ſhall follow the buſineſs of a retail chemiſt or druggiſt, unleſs he ſhall have ſerved an apprenticeſhip of five years to that art.

6thly, " That none of theſe reſtrictions be conſtrued to affect perſons at preſent regularly practiſing in the different branches of medicine.

7thly, " Whether phyſicians ſhall be entitled to recover their fees by the uſual legal means?

8thly, " That a regiſter ſhall be kept of all medical practitioners in the united kingdom, and every perſon in future entering upon the practice of any branch of the profeſſion ſhall pay a fine on admiſſion, the amount and diſpoſition of which to be ſettled and ſpecified hereafter.

RESOLVED,

1st, That it appears from the returns to the circular letters, that the abuſes complained of do exiſt to a great degree in every part of the united kingdom; and that the neceſſity for adopting regulations for their correction is univerſally admitted.

2dly, That it ſeems to be expedient that the plan propoſed by Dr. Harriſon be adopted as the baſis of regulation; ſubject, however, to ſuch alterations as may hereafter appear to be neceſſary.

3dly, That Sir John Banks and Dr. Harriſon be requeſted to wait again upon the right honourable lord Henry Petty, to ſtate to him the progreſs of the undertaking, and to conſult him upon further meaſures.

4thly, That the following gentlemen be appointed a committee to confer and correſpond with the different public bodies of the united kingdom, upon the ſubject of the propoſed regulations; that they be requeſted to report their proceedings from time to time, and to take ſuch other ſteps as they may judge neceſſary. Names of the committee: Sir John M. Hayes, Bart.; Sir Walter Farquhar, Bart.; Doctors Blackburn, Harriſon, Garthſhore, Pearſon, Stanger, Willan, Clutterbuck, and Secretary.

5thly, That a voluntary ſubſcription of one guinea each be received from the town and country practitioners, by any member of the committee, to enable them to proſecute the important objects in which they are engaged. (The names of ſubſcribers to be publiſhed hereafter.)

6thly, That Dr. Harriſon be requeſted to circulate the above plan and reſolutions of this evening among the Faculty of the united kingdom, in the manner of the former circular letter.

7thly, That ſince perſons of every rank and occupation in life are deeply intereſted in the propoſed regulations, the Faculty are particularly requeſted to ſubmit them to the principal inhabitants of their reſpective diſtricts, by convening meetings, or in any other mode which they may think proper.

8thly, That the thanks of this meeting be given to the Right Hon. Sir Joſeph Banks for his continued attention to the aſſociation, and the important objects of their purſuit.

Med. and Phys. Jour.

On the Uſe of Tar-water in Syphilis.

Dr. *Erich Acharius*, a Swediſh phyſician, has found tar-water of great advantage in inveterate venereal affections, ſpreading ulcers, pains in the bones, caries and exoſtoſes, &c. given in the quantity of from one to three pints in twenty-four hours. According to the obſervations he has made in the hoſpital at Stockholm, out of *ſeventy* patients treated by the uſe of tar-water both internally and externally, *twenty-four* were radically cured by this remedy alone. Thirteen others, to whom mercury had

been before exhibited without any effect, were cured by taking the tar-water along with mercury. In ſeven other patients, who had uſed in vain the nitric acid and oxygenated ointment, the combined employment of tar-water was found ſufficient to accompliſh the deſired end. Of the patients thus treated, eleven were afterwards ſubjected to the mercurial treatment, in order to enſure further a complete cure. In eighteen caſes, the tar-water having failed alone, recourſe was had to mercury. M. *Acharius* concludes, from the whole of theſe trials, that tar-water merits the greateſt attention in the treatment of ſyphilitic diſorders; that it is often ſufficient of itſelf for a cure; and that it is in all caſes an excellent auxiliary to mercury, eſpecially in inveterate ſtates of the diſeaſe. He employs two pounds of tar to four pints of water.

*Med. and Chir. Rev.**

On the Medicinal Properties of the diſtilled Water of the Lauro-ceraſus, or Laurel Water.

A German phyſician, Dr. Wurtzer, has obſerved that the diſtilled water of the lauro-ceraſus *(prunus lauro-ceraſus)* diminiſhes the too great irritability of the heart and muſcular fibres, and augments at the ſame time the action of the abſorbent veſſels. He has lately employed, with complete ſucceſs, this water, in the doſe of fifty drops, repeated three times a-day, in a caſe of hypochondriaſis. If this character of the laurel water be well founded, it promiſes to be a valuable remedy, as a palliative at leaſt, in organic affections of the heart, but eſpecially in nervous palpitations of this organ.

*Med. and Chir. Rev.**

* From the Annales de Lit. Med. etrangére.

Cure of Incontinence of Urine by Ol. Petrolei.

Dr. Fichtmeyer has ſucceeded in perfectly curing a caſe of incontinence of urine in a woman, by the adminiſtration, internal as well as external, of the *oleum petrolei.* This medicine had often before been found ſerviceable as an external application in caſes of paralyſis. *Med. and Chir. Rev. from the ſame.*

Gelly producible from Ivory Shavings.

It appears from ſome experiments of M. *Schroeder*, an apothecary of Berlin, that ivory ſhavings, boiled for ſome hours in water, give out a gelly in conſiderable quantity, and of the moſt agreeable flavour. By boiling two pounds of the ſhavings for four hours in three quarts of water, he obtained as ſtrong a gelly as from four pounds of ox-bones. This practice is now adopted in the great hoſpital at Berlin.

Med. and Chir. Rev.

Hoffman, on Plica Polonica.

The ſtatements of the ravages produced in the French army, by the Plica Polonica, have induced the Editor to introduce the ſubſequent account of a diſeaſe, ſo extraordinary in its nature eſpecially as it is ſo little known in this country, from the writings of medical men.

Diſeaſes, the tendency of which is fatal, and the occurrence frequent, peculiarly claim the attention of the practical phyſician; while morbid affections which appear more rarely, and

preſent unuſual phænomena, more eſpecially attract the inquiries of thoſe whoſe object is the extenſion of general ſcience. The diſeaſe termed *Plica Polonica* is of the latter claſs. It is endemic in Poland, and ſeldom, if ever, obſerved in any other part of Europe. During a long ſtay at Breſlau, in Sileſia, Mr. Hoffman had frequent opportunities of obſerving this diſeaſe; and, as it is at preſent little known in Britain, he truſts a brief narration of the principal circumſtances connected with it will not prove unintereſting.

'Both ſexes, he obſerves, are equally liable to the attacks of plica. It uſually appears during infancy, and but ſeldom after the age of twenty. When once produced, it continues during the remainder of life. The acceſſion of the complaint is in general preceded by irregular ſpaſmodic affections, pains in different parts of the body, a ſlow fever, and various diſeaſes of the eyes; all which ceaſe immediately on the appearance of the plica.

'The diſorder conſiſts in a preternaturally rapid growth of the hair, with a copious ſecretion of a viſcid matter from its bulbs. For the moſt part, the hairs of the head are alone affected; and that only in particular parts. In theſe, the hairs grow conſiderably longer than in the reſt, and are knotted and entangled with each other; being alſo covered with the viſcid matter which iſſues from their roots, and which aſſiſts in gluing them together.

'In proportion as the quantity of this gluten, and the implication of the hair increaſes, it is ſtill more and more difficult to clean and comb it; hence a degree of phthiriaſis is produced, and the head contracts an extremely fœtid ſmell, to which, however, the Poliſh peaſants are ſo much accuſtomed, that they endure it without complaint, or any manifeſt inconvenience.

'It is alſo an opinion univerſally prevalent with them, that the diſeaſe is a ſalutary effort of nature to expel a morbid matter from the body; and that to interrupt the courſe of it, would be productive of imminent danger; hence they make no attempt to cure, or even palliate the complaint. And if we may repoſe confidence in authors of eſtabliſhed reputation, morbid affections of a ſimilar nature to thoſe which precede its occurrence, paralyſis, and even death itſelf, have ſucceeded imprudent attempts to check the progreſs of the diſeaſe. In this reſpect, plica bears ſome analogy to the exanthemata, and various chronic cutaneous eruptions.

'I am as yet (he adds) unable to decide whether this complaint is hereditary or not. From ſome obſervations, indeed, it appears, that a prediſpoſition to it may be tranſmitted from the parents to their offspring; but my information on this head is too limited to aſcertain the point. In one caſe which fell under my own obſervation, two brothers had plica, both on the left ſide of the head, and in about one third of their hairs; I learned from them, that their father and grandfather had alſo been affected with the diſeaſe in a form exactly ſimilar.

'Beſides the human ſpecies, other animals are ſubject to this complaint. It appears in ſome of the fineſt horſes in Poland. In them it is ſituated in the mane, and ſometimes in the long hairs around the hoof and fetlock joint. It attacks alſo the different ſpecies of the canine genus; dogs, wolves, and foxes. Previous to its occurrence in the firſt, the ſymptoms of rabies uſually appear; the tail is dropped between the hind legs, there is a flow of frothy ſaliva from the mouth, the ſight and appetite are impaired, or entirely loſt; they are ſnappiſh, and diſpoſed to bite, but their bite does not produce hydrophobia. The wolf is affected in the ſame manner; he leaves his wonted concealment in the woods, and runs wildly among the flocks,

biting and deſtroying them, but without producing hydrophobia.

'The impoſſibility of aſcertaining the true cauſes of this ſingular diſeaſe, has given riſe to ſeveral vague conjectures on the ſubject; as that of Le Fontaine, who attributes it to a corruption of the fat. It is ſomewhat remarkable that plica takes place only among the lower claſs of people, whence ſome have conceived, that it is to be conſidered merely as a conſequence of uncleanlineſs.

'But, in objection to this opinion, it may be urged, that it is unknown in the adjoining countries ſubject to the Pruſſian government, where the peaſants are habituated to the ſame cuſtoms and mode of life, or nearly the ſame as in Poland; that its appearance affords evident relief to the ſyſtem, and its retroceſſion is productive of dangerous conſequences. The idea that it is a real acrid idiopathic diſeaſe, is confirmed alſo by its occurrence in a variety of animals, and by the circumſtance of its being confined to particular parts of the head; for which no reaſon can be aſſigned on the former ſuppoſition. A peculiarity of climate cannot be adduced as a cauſe of this diſeaſe. Poland differs little in this reſpect from the adjoining countries. The ſummer heat is conſiderable, the thermometer riſing frequently to 98°, 100°, 104°; and the cold in winter ſo great, that it falls ſometimes 10, 15 degrees below 0. But though the changes in the atmoſphere are ſo remarkable, at different periods of the year, they take place with the utmoſt regularity, the temperature paſſing by inſenſible degrees from one extreme to the other.

'The Poles themſelves are a vigorous hardy race, inured from infancy to labour, and to expoſure to the viciſſitudes of

the atmoſphere. Almoſt regardleſs of cold, they frequently ſleep in the open air. Their diet conſiſts chiefly of animal food, and they are much addicted to the uſe of ſpirits. They have an equal fondneſs for other ſtrong ſtimulating liquids. I have ſeen them drink with the greateſt pleaſure the ſalt brine in which herrings have been preſerved, and even nitrous acid diluted with water.

'Since no other cauſe can be aſſigned for this diſeaſe, it is probable, that it ariſes, according to the general opinion, from contagion; a contagion which, like that of Pſora, can be communicated by contact only; but this I have not been able to aſcertain by any obſervations of my own.

'It is ſaid, however, by authors of reputation, that plica is frequent in Tartary; and that it was brought into Poland in the thirteenth century by the Tartars, who at that period made frequent irruptions into the eaſtern parts of Europe.'

Med. and Chir. Rev.
from 4th V. of Mem. of the Lit. and Philoſ. Soc. of Manch.

De la Fontaine *on Plica Polonica.*

The firſt article is entitled, *Surgical and Medical Treatiſes on various Subjects reſpecting Poland. By* F. L. de la Fontaine, *Aulic Counſellor and Surgeon to the King, &c.* The only treatiſe of which an account is here given, is on the Trichoma, or Plica

Polonica, a diſeaſe endemic in Poland, and the neighbouring countries, in which a morbid matter is critically depoſited upon the hair, and binds it together in ſuch a manner, that to unravel it is impoſſible. Experience ſhews, that it is contagious, and very often congenital. There is no certainty when or where it firſt aroſe; the Arabians, Greeks and Romans, do not mention it; but ſome modern writers make the date of its origin, 1387, and add, that it came from Tartary.

The ſymptoms which precede this affection are various, and ſuch as uſually uſher in eruptive diſeaſes in general.

'The proximate cauſe of this diſeaſe is, according to M. de la Fontaine, a peculiar morbid matter, which is clammy and acrid, has its ſeat in the lymph, and is depoſited critically upon the hair or nails. Its exciting cauſes are equally uncertain, for neither the air, water, nor food, ſeem to have any effect in producing it; nor are cleanlineſs and regular combing of the hair any defence againſt it.

'In the beginning of the diſeaſe, M. de la Fontaine recommends reſolvent, attenuant, ſaponaceous, demulcent, and emollient remedies, to prepare the morbid matter for the criſis. If theſe be not ſufficient, he adds extract of aconite, or cicuta, calomel, or ſome antimonial. In general, he ſays, antimony is as ſpecific in this diſeaſe, as mercury is in lues. If it be complicated with lues, corroſive ſublimate produces the very beſt effects; but ſalivation is highly detrimental in every caſe. In order to bring about the criſis, he makes uſe of ſudorifics. The lycopodium is praiſed by old phyſicians as a ſpecific; but unjuſtly. Theſe remedies can only be uſed, when no fever is preſent; in this caſe, blood-letting and evacuants muſt be very cautiouſly uſed. Our author compares it to the ſmall-pox, where, when

the fever is too weak to produce the eruption, it muſt be increaſed; when it is too violent, it muſt be diminiſhed. Hence the ſtrength of the patients muſt be often ſupported with generous diet. The people believe in a number of ſpecifics, but the diſeaſe has not become leſs frequent. External remedies are almoſt always neceſſary, ſuch as the application of warmth to the head, in the form of vapour, warm bath, or decoctions of various plants; a decoction of ſoap is often of great uſe, when the head-ach is violent. Sinapiſms and bliſters are likewiſe applied with advantage. If the morbid matter be depoſited on the ſurface of the body, it occaſions malignant and obſtinate ſores, which give a great deal of trouble. Antimony muſt always be an ingredient in whatever is applied to theſe. If the matter have a tendency to depoſite itſelf in the nails, it muſt be encouraged by the application of ſtimulants; ſuch as, tincture of cantharides, bliſters, or by touching a freſh plica with the fingers. Againſt the vermin, hair-powder rubbed with mercury is the beſt remedy. If all theſe means be inadequate to produce the criſis, inoculation of the diſeaſe will often effect it. It is performed by putting on a cap which has juſt been worn by one who has had a recent plica.'

After a complete criſis, the plica ſeparates from the head, and remains attached only by the ſound hair. If it has become dry, and all ſymptoms have ceaſed, it may be cut off. On the contrary, if recent, and the ſymptoms ſtill continue, its removal is attended with great hazard, often inducing other violent diſeaſes.

Med. and Chir. Rev.
from Duncan's An. Vol. 1.

The following Review of a Work entitled, "*Phænomena und Sympathetie der Natur nebſt dem wunderbaren Geheimniſs Wunden ohne Berührung vermöge des Vitriols nach K.* DIGBY, *blos ſympathetiſch zu heilen*, i. e. The Phænomena and Sympathy of Nature; together with the wonderful Secret of curing Wounds without touching, ſimply in a ſympathetical Manner, by Means of Vitriol, according to K. DIGBY;" will tend to ſhew that the Days of SIR KENELM DIGBY ſtill exiſt (or did lately), on the Continent of Europe.

THE author of this work is M. P. Coeliſtin Störk, a Benedictine monk in Banz. His intention is to take under his protection, what is called ſympathy, and all ſympathetic cures; and to illuſtrate them from natural laws. In doing this, he exhibits proofs of much reading; and upon the whole, an exertion of learning, worthy to have been beſtowed on a better and more important ſubject. The ground upon which the author builds his whole ſuperſtructure, to prove the exiſtence of ſympathetical cures, is, that the thing itſelf exiſts, therefore it is poſſible; and all we have to do, is to find out the cauſes why it exiſts. With the proofs of this exiſtence, however, the author, who pretends to leave nothing unproved, goes very ſuperficially to work. He admits as true, without any hiſtorical criticiſm, every account of ſympathetical cures and appearances; and endeavours to find out the laws of nature, according to which theſe appearances follow. All thoſe known accounts of ſympathetic appearances and cures, deſcribed by our countryman Sir Kenelm Digby, are, with him, proved hiſtorical facts: it is in his eyes a true prognoſtic of the ſpeedy diſſolution of a ſick perſon, when dogs howl without any known cauſe; or when the bird of death, the owl, makes a ſcreaming in the neighbourhood. He even receives as true, the moſt incredible hiſtories of the effects of imagination of the mother,

upon the child in the womb, without at all examining them. Nay, he confidently tells the fable after Digby, that a man, or even an animal, feels the moſt excruciating pain in his poſteriors, when his excrement is burnt; and that man and beaſt may be brought into the greateſt danger of life, if their excrements are ſlowly dried in ſmoke. In a cow, whoſe milk is boiled away one third on the fire, the udder inflames, and inſtead of water ſhe voids blood. All thoſe ſtories of the ſympathetic powder, &c. he relates as occurrences whoſe truth is proved. His theory for the explanation of theſe appearances is as follows; there is a twofold ſympathy, the one in the ſouls and bodies of men, and the other in the bodies of the univerſe. This ſympathy excites a ſimilarity of affection, and has its origin in the great law of love, which is the bond that unites all beings, and riſes to the very divinity from which it flowed. The phyſical cauſes of this ſympathy lie, in the immenſe number of atoms and ſmall particles, which are diſperſed through the atmoſphere, and which often ſuffer a peculiar attraction; ſtill with the deſign, that the attraction of homogeneal parts, or of ſuch, which, in both the attracting bodies, are of one figure, one being, and one nature, is much greater; and that, when once ſuch an attraction takes place, every thing which adheres to the attracted body, and which is united with it, is alſo at once taken away and drawn along with it. By means of theſe poſitions the author explains all ſympathetical appearances. If for example, when the milk boils upon the fire, and runs over, the cow inſtantaneouſly has the moſt excruciating pains in her udder, provided it is not prevented by a ſympathetic effect of throwing a handful of ſalt in the fire; this is explained in the following manner. The milk that fell on the burning coals becomes changed into vapours, which diſperſe themſelves every where in the air, and are further dragged along by the air and the beams of the ſun, and arrive, in conjunction with the

atoms of the fire, to the udder of the cow which gave the milk. The udder has an excluſive ſuſceptibility of attraction for the vapour, becauſe it was the ſource from whence the milk flowed. The udder being now very tender, and, on account of the teats, being much ſubject to inflammation, the concluſion of courſe ariſes of itſelf, that through theſe atoms, the udder becomes inflamed, ſwells, becomes hard, and knotty. The reaſon why the ſalt thrown into the fire prevents this, is as follows: the ſalt is cool, and of a more fixed nature, and precipitates the fire; for which very reaſon, a chimney on fire becomes extinguiſhed when ſalt is thrown on it. Upon ſuppoſitions ſimilar to thoſe adduced, nearly all the explanations of the author are grounded. The effects of the famous ſympathetic powder, he explains in the following manner: The atoms of the vitriol, in the lye of which, the cloth, ſtained with the blood of the wound, is laid, are poſſeſſed of cooling and healing powers, and force themſelves into the wound, in the ſame manner, as the atoms of fire, milk, and ſalt, into the udder of the cow, and effect a cooling and healing therein. The exiſtence of maternal marks, the author conceives he has ſufficiently explained. He takes the well-known fact for his foundation; that when two ſtringed inſtruments are tuned to the ſame pitch, and the ſtring of one is touched, the correſponding ſtring of the other ſounds without being ſtruck. Now the mother and the child in her womb are in a much cloſer connexion, than theſe two inſtruments: conſequently, the touching of a conceiving ſtring of the mother, muſt have an effect upon the conſonant ſtring of the child, and muſt produce in its imagination, (in the imagination of a child in the womb!!) as well as in its body, the ſame effects. A mulberry fell upon the bare neck of a woman with child; ſhe was delivered of an infant with a mulberry upon the very ſpot. The imagination of the mother was wholly filled by the particles of the mulberry: ſhe became greatly

moved and aſtoniſhed. A good part of theſe atoms, or ſpirit of the mulberry, went towards the brain of the child, and at the ſame time to the very ſpot of the body, in which the mother had received the impreſſion: and the ſpirits, accompanied by the atoms of the mulberry, made in the ſkin a deep engraved mark; as kindled gunpowder on the face!

Med. and Chir. Rev.

Review of JONES' *Medical, Philoſophical, and vulgar Errors, of various Kinds, &c. &c.*

A MORE fertile field of both amuſement and inſtruction, can perhaps hardly be found, than the one our author has choſen to employ thoſe hours of leiſure, which ſickneſs and confinement had occaſioned. He thought juſtly, that he could not be better engaged, than in breaking a ſpear againſt ſuch deep-rooted medical errors, as have been permitted to travel down to us from time out of mind, as matters of unqueſtionable veracity. It is no inconſiderable ſtep, he obſerves, in favour of ſcience, to bring ourſelves to doubt of the reality of ſome facts advanced for truth, not only by the ancients, as from their own knowledge, but by ſome moderns alſo, in ſpite of the celebrity of their names. From the various remarks of the author, we ſhall, for the entertainment of our readers, if not for their inſtruction, give a few of the moſt ſtriking.

'Theſe inſtances, as I had naturally a narrow ſwallow, and being no Roman catholic, have not been in the habit of crediting marvels, have given me an utter diſreliſh for marvellous cures performed, even by men of eminence, though atteſted alſo by men in high ſtations; inſomuch that I find great diffi-

culty in giving implicit credit to Sir Kenelm Digby's wonderful ſucceſs from his ſympathetic powder, though atteſted by his friend the great Lord Herbert of Cherbury; which, by being only ſimply rubbed on the ſword, which gave the wound, cured the dueller whoſe body it had run through, without the painful probings and dreſſings of a ſurgeon, or the leaſt confinement. I have alſo a great backwardneſs in giving credit to Greatorex's cures, and the French impoſtures of animal magnetiſm. As for that beautiful experiment, in proof I ſuppoſe of his doctrine, that blood has life in itſelf, which John Hunter contrived, equal to any of Taliacotius's, of transferring a cock's ſpur from his leg to his head, and making it grow there; I am ſure I have no reaſon to object to it, as I won a wager that it was not true, which a gentleman paid me freely, upon its having been omitted in a ſubſequent edition of the quarto Treatiſe on the Teeth. Though the tranſplantation of a cock's ſpur, when ſucceſsful, appears not to be attended with ſufficient advantage to encourage the practice; that moſt ingenious experiment, recorded in the Berlin Medical Memoirs for the year 1778, of hatching chickens in forty-eight hours by electricity, not only ſaves the poor hen nineteen days painful attention, but might turn out a moſt beneficial article in trade, and reduce the price of poultry, which is at preſent enormous, if it ſucceeded here.

'Notwithſtanding the above ſtrictures, as I myſelf have a propenſity to a little whimſicality, I am ill-diſpoſed to ſneer at any medical *jeux d'eſprit;* though they may happen not always ſtrictly to anſwer the ardent wiſhes of their projectors; from a conviction that the laugh of the unlearned at a firſt project may at times have proved detrimental to ſcience, by ſo cramping a man of genius in his ardour for improvements, as to intimidate him from making a ſecond attempt, who with a little encouragement might have ſucceeded better in ſubſequent trials.

'Under this predicament, as ſimple a ſcheme as any, was that of the celebrated Leuenhoek, planned for the preſervation of his own health, who had ſuch remarkably good eyes, and was ſo much accuſtomed to make microſcopical obſervations, that he diſcovered the ſmall veſſels or pores through which inſenſible perſpiration is carried on, which open ſideways under the *cuticle*, of ſuch minuteneſs that 100,000 of them might be covered, he aſſures us, by a ſingle grain of ſand; yet his apparatus did not coſt him a penny, being a ſingle microſcope made by holding a ſmall glaſs wire in the flame of a candle, till it melted into a little round globe, which he afterwards placed in a hole made to fit it by a pin in a thin bit of ſtick. With this he was enabled to make greater diſcoveries than any ſubſequent philoſophers with their very coſtly microſcopes, which though they magnified, darkened the object at the ſame time.

'He pricked the back of his hand with a pin, when in perfect health, for a drop of blood, which he carefully inſpected through his microſcope; the exact conſiſtence of which he noted down, to ſerve for a ſtandard in a ſcale to meaſure any future aberrations from, upon the acceſs of any future illneſs. Thus prepared, when for example, he found it neceſſary upon the approach of ſome diſorder, to inſpect the ſtate of his blood, he pricked his hand as before for a drop, which he carefully compared with the note of his former ſtandard, from which he formed his indication of cure. If he found that the *craſſamentum* exceeded in its proportion, he lived pretty much upon weak ſlops, tea, weak coffee, lemonade, imperial, and the like; and, on the contrary, when he obſerved an exceſs in the ſerum, he thickened it by drinking a decoction of Peruvian bark, and a glaſs of Port now and then. And I make no doubt, had the virtues of Prieſtley's airs been diſcovered in his time, but that Mynheer, towards the completion of his ſcheme, by a careful and judicious obſervation of the blood's colour alſo, and its variation in different diſorders, would have added to his Phar-

macopœia, the three articles of azotic, hydrogene, and oxygene airs, to remedy all its aberrations in that reſpect alſo; for example, if, (as it is natural to ſuppoſe in a torpid Dutch habit) the blood ſhould happen to exhibit too much of a dark ſcorbutic red, he would only have had to ſnuff up a few noſtrils-full, now and then, of oxygene air, to quicken the circulation, and give it a beautiful pink. If, on the other hand, it appeared too pinkey and florid, he would only have had to lower it with *quant. ſuff.* of azotic or hydrogene, till it ſhould be reduced to its natural healthy ſtandard, crimſon.

'*That a phyſician juſt called to a Patient ought, as ſoon as he comes down ſtairs, to inform the Family of the Name of the Diſtemper.*

'This, in which the credit of the apothecary is greatly involved, who from his earlier attendance, may poſſibly have been raſh enough to give it ſome name, may not unfrequently happen to be a very difficult queſtion; till the doctor has had ſufficient time to diſcover it by a moſt ſedulous attention to its various, and poſſibly complicated appearances. And it may not unfrequently happen, even after the determination of the diſorder, that he may never be able to bring all its variations to anſwer exactly to any ſpecies the very fancifully-inventive claſs-maker may have eſtabliſhed. How much, for example, would one be to be pitied, whoſe reputation, when deſired to look at a ſore eye, were to be eſtimated, and depend upon his being able to ſpecify identically which of old Chevalier Taylor's 134 diſorders of the eye, as delivered in his lectures, the preſent was; many of them, probably, as difficult to diſcriminate as any of Captain Cook's newly diſcovered rocks and headlands. Moreover, if the diſtemper be a fever, how often are fevers, which in their acceſs are inflammatory, found to become in their progreſs nervous; or putrid intermittents to become remittent or continual: and *vice verſa?* ſo that like the man's

account of the wind at *Maker's Tower*, the phyſician's account may daily ſhift and vary. And indeed, after all is over, preciſely to diſtinguiſh between the peculiar ſymptoms of the diſorder, and thoſe probably owing to the medicines made uſe of, is no very eaſy matter; for the putrid water, for example, and corrupted juices diſcharged by ſtool in any illneſs where ſcammony has been much uſed, is by no means a proof of the previous exiſtence of thoſe humours; for ſcammony given to the healthieſt perſon will diſſolve the blood into a putrid water, and waſte the whole body by its repeated uſe; the healthy juices being firſt corrupted by the virulency of the medicine, and then diſcharged.

'Lecture-reading claſs-makers often find great trouble (ſo there is in ſplitting a hair) in thoſe diſtinctions without a difference they make in their minute diviſions and ſubdiviſions of fevers; with the view, probably, of appearing ſapient to their pupils, rather than any real uſe they can poſſibly tend to. Probably the truth may lie between theſe, and a late writer, who, with an ingenious unaſſuming diffidence, ventures to prove, that of fevers there exiſts but one ſort only; attributing all the variations in their ſymptoms to the different idioſyncraſies of patients, ſeaſons, treatment, &c. &c. And what ſtrengthens this gentleman's opinion not a little is the known fact, that two people never had exactly the ſame ſymptoms in any fever. Mere ſpeculation, indeed, ſeldom does any good in phyſic, or even in philoſophy or divinity; had a learned prelate, whoſe buſineſs only it was to prove to us the reality of the demoniac miracle, ſaved himſelf the needleſs pains he took to puzzle himſelf and his readers, in calculating to a ſcrupulous nicety the number of devils and half-devils allotted to each pig; our belief, taking the whole in the lump, as the inſpired apoſtle relates it, would have been equally ſtrong, and the biſhop would have eſcaped much deriſion.

'There are very few viſitors of the ſick who do not kindly preſs the infirm perſon, though attended perhaps by a phyſician or two of great ſkill, to make a trial, in preference to his preſent medicines, of ſome very innocent thing; which, from their own knowledge, they aſſert has been of the greateſt benefit in juſt ſuch a ſimilar caſe.

'The firſt miſtake of the buſy interfering lady or gentleman may be, (and a very dangerous one it is,) in the *ſimilarity* of the caſe. A ſecond may be, that this innocent thing, except it be purely an article of food, can be of any uſe at all; none of our choiceſt medicines being innocent things when improperly applied. To a perſon of a tender face who muſt be ſhaved, can it be any recommendation of a razor, that it is as innocent as a lath, which can never be too keen in the hands of perſons well ſkilled in its management? And if by any innocent thing be meant a medicine ſlow and weak in its operation; is it certain that the diſorder may not gain a march upon it, by this triſling procraſtination, and great loſs of time; and this innocent noſtrum be thus actually converted into a poiſonous one, for in many caſes *non progredi eſt regredi*? Another error may poſſibly be, that the art of phyſic is either univerſally innate in mankind; or, at leaſt, is ſo very eaſily attainable, that ſcarcely any body is ignorant of it except phyſicians themſelves. If ſo, what incorrigibly egregious dunces muſt the regularly educated phyſicians be, who, after the beſt claſſic education, ſtudy phyſic in each of its numerous branches with every advantage for many years at Oxford or Cambridge, completing the whole with a year's attendance upon the moſt reputable profeſſors and hoſpitals in London; if after all they are not ſuppoſed to be even upon a par with the generality of other people, who pretend not to have profited by any of thoſe advantages.

'To confeſs the truth, our brethren the Urine Prophets, and Animal Magnetiſers, ſhew abundantly more good ſenſe than any

of us; as, without the leaſt expenſe, they create themſelves doctors by inſpiration; without pretending the leaſt aſſiſtance from learning, or its equal ſubſtitute a Scotch *diploma.* And as long as the fools in this credulous nation continue ſo greatly to out-number the wiſe, they will never fail of getting into very lucrative practice, and rapidly making their fortunes.

'As government at preſent perfectly acquieſces with any perſons practiſing phyſic, who can find people weak enough, and willing to be practiſed upon; Oxford ſeems to have no great deſire to concern herſelf much in the matter, divinity and the civil law being her ſtaple commodities. The thing which affects her intereſt moſt is her young ſiſter Cambridge opening a private bridle road, to the left of the old turnpike one, to let in country curates, and underſell to them bachelor of divinity degrees; without keeping terms; and without any previous examination into, or knowledge of their learning. Had Oxford been politic enough to have elected Mr. Pitt for one of its repreſentatives, he might probably, in return for that honour, have befriended her by inſerting a clauſe in his act againſt ſmuggling, againſt ſo clandeſtine a practice, ſo injurious to the fair trader, the elder *Alma Mater.* As matters now ſtand, I know not what my much reſpected old nurſe can do better than to open a ſimilar poſtern wicket, and, like play houſes, after the third act, let in country cuſtomers at half-price.'

That icterical Perſons ſee every Thing yellow.

'Though it be a common poetical alluſion to ſee things with a jaundiced eye; and though this circumſtance enters into the great Sydenham's definition of this diſtemper; I have ſeen numerous patients icterical to the greateſt degree, yet never knew one who did not ſee objects in their natural colour.'

That it is neceſſary to drink plentifully of Water-gruel, or ſome warm diluting liquor, to aſſiſt the operation of a purging draught.

'The palpable error here is uſing that as a mean for promoting its operation, which has a tendency on the contrary to weaken it. When in dropſies a very quick ſmart purge is intended, care ſhould be taken to forbid the patient drinking any thing which may dilute away its ſtrength. What, in my opinion, may have given the firſt riſe to this practice, muſt have been an attempt, by a great ruſh of ſome mild warm liquor, to diſſolve and diſlodge ſuch hard aloetic pills, or ſubſtances of an acrid, inſoluble, adhæſive quality; which, by ſticking faſt to ſome part of an inteſtine, like ſhoemaker's wax, may have cauſed violent painful gripings by their inflaming, fretting, and penetrating the part. This mode of relieving the patient not having been clearly underſtood, as to its operation, has continued to be faſhionable, gripe or not gripe; even when the cauſe requiring it did not exiſt; as in Glauber's ſalt, or any other ſo ſoluble and miſcible with the *gaſtric*, and *enteric* liquors it had to meet with in the *primæ viæ*.

'I will riſk my reputation in being the firſt perſon that ever ſet his face againſt a very great abſurdity, which has hitherto never been ſuſpected of being ſuch, viz. an abſolute neceſſity of a very ſtrict regimen, and making a wonderful fuſs about confinement to one's warm room, and clothing one's ſelf much warmer than uſual, on the day a purge is taken. Whereas (mercurials alone excepted, whoſe nature it is to be determined by cold weather with violence upon the glands of the throat) I affirm, that a perſon living, and clothed as uſual only, is much leſs liable to take cold, and to ſuffer from it, than upon any other days.

'I have twenty times ſwam in the Iſis, and ſo have many others, on the afternoon of thoſe days, on the forenoons of

which we had taken an ounce or two of Glauber's ſalt in *Holywell water.* And in a courſe of ſea-bathing, I have often directed many, after purging in a morning with ſea-water, to bathe in it on the evening of the ſame day. The reaſon why no harm can poſſibly happen from this practice I conceive to be this; that nature never at the ſame time works by directly contrary ways; never plays faſt and looſe; never opens the perſpiratory and ſudatory veſſels, and cloſes them alſo at the ſame time.

'As the purge, by its action upon the inteſtinal glands, and thoſe of the ſtomach, and upon all the neighbouring veſſels, (as alſo upon that univerſally pervading lymph, the exiſtence of which Le Cat ſays he has diſcovered,) brings a flux of humours into the inteſtinal canal; cold, by its conſtringing all the veſſels of the external ſurface of the body, would moſt evidently tend rather to promote the flux, and operation of the purge, than check and impede it. And, perfectly agreeable to my doctrine, we find that warm diaphoretics, which, by a copious ſweat, determine and throw out the acrid humours from the inteſtines in violent dyſenteries upon the external parts, become the moſt efficacious medicines of any; *per contra* alſo, in the moſt dangerous conſtipations, when no art or medicine has been able to looſen the bowels and procure a motion, ſetting the patient to ſtand naked upon a cold marble hearth, and daſhing cold water by pail-fulls againſt his *abdomen*, has often moſt happily ſucceeded; and to the admiration of his friends ſnatched him as it were from the very jaws of death.'

That Earths and Boles are of the greateſt uſe in correcting acidities in the Stomach of Infants.

'I think them very dangerous; for if there ſhould be no acid juices in their ſtomachs, theſe are apt to concrete with the mucous matter lodged there into hard indiſſoluble maſſes, ſo

as to line the ſtomach with a cruſt capable of obſtructing the gaſtric liquor's paſſage into it; and alſo of cloſing the orifices of the lacteals, ſo as to obſtruct the paſſage of the chyle through them into the blood.*

'Some have endeavoured to controvert this opinion by this exception: After a ſolution of theſe earths well triturated, in water (wherein was no acid,) had been made, and paſſed through filtering paper, a portion of a whitiſh earthy matter has been found, capable enough of paſſing through the *lacteals* into the blood. The inconcluſiveneſs of this proof will appear by the conſideration, that this *reſiduum* was ſupplied ſolely from earth naturally contained in the water uſed, and not at all from the earth made uſe of in the experiment; for if pure water diſtilled had been made uſe of, though ever ſo long triturated and digeſted with the earth, it would have left no *reſiduum* at all.

That the Influenza is a very dangerous diſtemper, and a new one; never known in this Country till a few years ago; at which time the College, by their circular letters, cried out for help from all quarters; were themſelves greatly alarmed, and ſpread a general terror.

'It is neither a new nor a dangerous diſtemper; every perſon going out of a warm room, and riding, by night, againſt a ſharp eaſterly fog, who had not prudently guarded his noſe and mouth from it by a thin ſoft handkerchief, muſt have caught it; and ſo may any one in ſuch circumſtances catch it; whether under the new name of influenza, or the old common one of catarrh.

'The preſent, ſtyled the age of diſſipation, may, in my opinion, have pride and pedantry very properly added to the

* This is ſurely fanciful enough! This and a few other inſtances, which we could ſelect from the preſent performance, might perhaps not unaptly be added to the author's liſt of medical and vulgar errors. *Engl. edit.*

bill. Aſk the dirtieſt, moſt ragged child you ſee playing upon a dunghill, whoſe child he is; you are anſwered, Mr. Such-a-one's. *Maſter*, formerly a title of eminence, is now worn and aſſumed by the very loweſt of mankind; there are no *women* to be had at preſent; even thoſe at a two-penny puppet-ſhow of a country village, forſooth, are all called the *Ladies*. Though at preſent we cannot pretend to be advanced in ſtature above former times; yet we diſtance them far in our affectation of dignity, pomp, and conſequence. Such is our improvement in philology alſo, that ſince a travelled fine gentleman has been pleaſed to dub a common cold, which ſeized him in his return from a warm climate over Mount Cenis, with a foreign name of influenza; all our catarrhous colds, amongſt our gentry, have aſſumed the ſame name and importance; except amongſt ſome old aged people; who hardly think it worth while to new-model their language, when they catch it, ſnivel and drivel it off under its former name. In the commutation of terms, ſufficient care is at preſent taken not to exchange for the worſe; formerly *vomits* and *purges* were in uſe, they are now ſuperſeded by *emetics* and *opening medicines; boils*, which a ſervant maid was formerly uſed to poultice and open with a pin, are now a *tumour* maturated by *cataplaſms*, and to be lanced as an *abſceſs*. There are now no *apothecaries;* they are all *ſurgeons;* and theſe all *phyſicians*. There are now no *enſigns* and *lieutenants;* they are all *noble captains*. Let a ball, in very ſultry weather, be ever ſo much thronged, nobody now *ſweats*, though large drops continually trickle down their faces, and require the conſtant application of handkerchiefs; the company only *perſpire* freely, though every one knows perſpiration to be inſenſible, and not to be ſeen. No lazy, greaſy, fœtid, over-fed gentlewoman, is at preſent *fat*, though of the full weight and admeaſurement of Dolly Crampton, cook at the George; the lady is only *jolly*.

'No ſtreet-walkers, though half-rotten, confeſs themſelves *infected;* they are only *injured*. No fribble officer, pale, and

trembling through fear upon being ordered into battle, has now the courage of Sir John S—ck—ing bravely in the face of his country to call it *cowardice;* no, he only complains of having naturally *bad nerves.*

'Theſe may be allowed to be trifling inſtances of pedantic folly; but that it ſhould infect a great aſſembly, whom we were in the habit of formerly looking up to as patterns for ſtyle and every ornament of ſpeech, is really lamentable; as we now can have no pleaſure in reading the ſpeeches, becauſe we do not underſtand them. We know what a man, bred a ſcholar, meant when he ſaid *he would not commit a fault;* but never when he ſaid he would not *commit himſelf.* We knew what a man meant when he ſaid he was *bound to declare* the truth; but when he ſaid he was *free to declare it,* we loſt him again, unleſs the gibberiſh of *bound* and *free* meant the ſame thing, which we well know to be contradictory terms.

That to cure a fractured patella it is abſolutely neceſſary to bring the fractured ends together, and firmly to ſecure them in that poſture with paſteboards and firm bandages, and a long confinement in bed.

'I remember a caſe brought before the ingenious Mr. Samuel Sharp at Guy's hoſpital, of a woman carrying on her head a heavy pail, who by a fall broke both the patellas. This afforded him an opportunity of declaring to his pupils, that he would not ſet one of them, from the numerous bad conſequences he had often ſeen to attend ſuch practice in others, ſuch as a ſtiff knee, if not an anchyloſis for life, and its very great aptitude again to break; whereas he affirmed that no ill conſequence of any kind can happen from leaving it entirely to nature. He therefore earneſtly exhorted his pupils to ſet ſuch a value on their characters in private practice, as to put it out of the power of ill-wiſhers, to accuſe them of groſs ignorance, or, what is worſe, condemning their patients to a tedious and a painful confine-

ment for the ſole lucrative purpoſe of charging them for an operation and long attendance, while they muſt in conſcience be perfectly convinced that all they do is not unneceſſary only, but generally miſchievous to a great degree.

That green and bohea tea are the leaves of one and the ſame tree; differing only from the different ſeaſons of gathering them, and the different ages of the tree.

'Theſe trees are of late become ſo common in our gardens that they are well known to differ remarkably from each other. The bohea is a very tender ſhrub, which requires a green-houſe in winter, and is perfectly diſtinguiſhable from any other teas by its berries. But the green is a hardy ſhrub, and will ſtand the weather in our climate, and live out with our gooſeberry trees. The relaxing quality of the infuſion of teas proceeds from our drinking it hot, if it be made weak, particularly the green; for when this is made ſtrong and drank cold, it is a remarkable aſtringent, and when very ſtrong, proves emetic. The Chineſe, who muſt be the beſt judges of the qualities of teas, make uſe of bohea only for their own drinking, of which a ſufficient quantity for the whole day's beverage is made in the morning, and carried out with them to their rice ground, or other employments; which they always drink cold, and without ſugar; they do not infuſe it after our manner, but boil it in a tea-kettle, (uſing tea-pots only as ſtrainers,) probably the better to evaporate the fine ſmell of their beſt teas, which are ſaid to have an intoxicating quality, unleſs they are kept a year or two before they are uſed.

'A more convincing proof of the deleterious quality of our fine green tea can hardly be conceived than Dr. Percival's. He confined, by a little weight of lead upon his back, a frog upon the rim of a ſaucer full of green tea, of the heat and ſtrength which our ladies are accuſtomed to drink it, in ſuch a manner, that one leg ſhould lie in the tea, which ſoon became paralytic; he then, in like manner, tried another leg, which ſuffered alike;

and ſo on with the reſt, to that degree that the animal could not make the leaſt uſe of either of them.

'The mode of manufacturing their teas is ſaid to be as follows: the leaves, when gathered off the trees, have a cauſtic oil upon them; to take off which, they infuſe them in water for ſome time; after which they with their hands roll the green tea leaves upon copper-plates, heated by a ſtove underneath. The ſmall remains of the acid oil, ſtill adhering to them by its corroding the copper, is thought to communicate to it the green colour which the Engliſh look upon as the teſt of its goodneſs. The bohea not bearing ſo good a price in Europe, though dearer in China, is rolled on a common table with leſs care, and afterwards dried by ſtirring it in heated iron pots, with as little trouble as may be; a little tinge from the iron may probably be one reaſon for its greater healthfulneſs, and the cauſe of its colour; and as it is ſo cheap, there is not the ſame temptation to adulterate it. The dealers in London, after buying a lot of green tea, ſpread it upon a long table, and employ women to pick and ſeparate it into ſeveral different ſorts, as to the colour and ſize of the rolls, &c. to which they afterwards give what names they think proper, as hyſon, imperial, cowſlip, &c. &c. However, towards cowſliping a portion of the former, to enhance its price, one or two drops of *otto* of roſes is added to a caniſter of it, to give it the fine ſmell it is admired for. What tree, or contrivance, produces what is called ſouchong, I have not learnt: all we know of it is, that it differs much from bohea, as it has no berries in it, and often makes people ſick, whom the bohea perfectly agrees with.

That the ſmell of a lime-kiln preſerves people from conſumptions; and that pregnancy has the ſame effect.

'I fear neither aſſertion is true; becauſe I knew a woman, of about thirty years of age, who was attended before and after pregnancy by an ingenious phyſician, in a conſumption, who

died of it ſome months after her delivery, though ſhe was born, and always lived as near as poſſible to eleven lime-kilns in conſtant work, during the ſeaſon, the fartheſt not 200 yards from her houſe. An unmarried girl, her next door neighbour, died alſo conſumptive.' *Med. and Chir. Rev.*

*Table of the comparative proportions of the human brain with that of other animals.**

Animals.	Weight of Body.				Brain.				Proport. to the Body			Authors.
	lb	℥	ʒ	gr.	lb	℥	ʒ	gr.				
Man,	140	—	—	—	4	—	—	—	1	to	35	Haller.
———	160	—	—	—	4	—	—	—	1	—	40	———.
Boy 6 years old,	50	—	—	—	2	—	28	—	1	—	22	———.
An Adult,	146	6	—	—	—	—	—	—	1	—	30	Pozzi.
Galeus Piscis,	25	—	—	—	—	—	2	—	1	—	1200	Redi.
Testudo Terrestris,	2	4	—	—	—	—	—	6	1	—	2240	Caldesi.
——— Marinus,	79	—	—	—	—	⅓	—	—	1	—	5688	Ditto and Redi.
Canis Carcharius,	600	—	—	—	—	½	—	—	1	—	12000	Steno.
Ditto,	26	—	—	—	—	—	—	—	1	—	2496	Ditto.
Tunny Fish,	390	—	—	—	—	—	1	—	1	—	37440	Redi.
A Lion,	243	—	—	—	—	5	10	8	1	—	615	Buffon.
A Cat,	—	76	—	—	—	—	7	24	1	—	82	Arlet.
Ditto,	8	—	—	—	—	—	6	32	1	—	156	Pozzi.
A Wolf,	64	—	—	—	—	4	3	4	1	—	230	Buffon.
A Dog,	62	—	—	—	—	—	26	—	1	—	305	Ditto.
Ditto,	—	—	—	—	—	—	—	—	1,154.	1,88.	1,54	Arlet.
A Beaver,	30	—	—	—	—	—	—	—	1	—	290	Parisini.
Ditto,	17	—	—	—	—	—	6	—	1	—	362	Buffon.
An Elephant,	5000	—	—	—	10	—	—	—	1	—	500	———.
An Ox,	1500	—	—	—	2	—	—	—	1	—	1154	Redi.
Ditto,	866	—	—	—	—	—	—	—	1	—	866	Buffon.
A Dromedary,	369	—	—	—	—	15	—	—	1	—	216	Ditto.
A Horse,	700	—	—	—	—	28	—	—	1	—	700	Ditto.
Ditto,	400	—	—	—	1	—	—	—	1	—	400	Ditto.
An Ass,	198	—	—	—	—	12	2	48	1	—	60	Ditto.
A Stag,	161	—	—	—	—	11	5	—	1	—	221	Ditto.
A Goat,	19	—	—	—	—	—	25	46	1	—	94	Arlet.
A Sheep,	57	—	—	—	—	—	21½	—	1	—	324	Buffon.
A Hare,	—	136	—	—	—	—	7	—	1	—	218	Arlet.
A Rabbit,	—	44	—	—	—	—	2	30	1	—	140	Ditto.
A Domestic Mouse,	—	—	36	—	—	—	—	34	1	—	76	Buffon.
A Common ditto,	—	—	—	324	—	—	—	17½	1	—	43	Ditto.
A Dormouse,	—	—	23	—	—	—	—	28½	1	—	53	Ditto.
A Goose,	—	108	—	—	—	—	—	144	1	—	360	Haller.
An Eagle,	—	—	—	—	—	—	—	—	1	—	160	Borrich.
A Cock,	—	25	—	—	—	1	—	—	1	—	25	Pozzi.
A Sparrow,	—	—	—	380	—	—	—	21	1	—	15	Ditto.
A Canary Bird,	—	—	—	180	—	—	—	13	1	—	14	Ditto.
Apes,	5	9	—	—	—	—	16	90	1—11	1—28	1—107	Buffon.

* From Rowley's "Schola Medicinæ Univerſalis Nova."

Some Additions to a Paper read in 1790, *on the Subject of a Child with a double Head. By Mr. Home.**

Although the paper here referred to made its appearance ſo long previous to the firſt publication of the Medical and Chirurgical Review, yet as the ſubject of it is not a little curious and intereſting, and as the additional remarks here given could not be otherwiſe well underſtood, we ſhall briefly recapitulate the particulars.

The double ſkull here deſcribed was furniſhed to Mr. Home by a friend in the Eaſt-Indies, where the child which was the ſubject of it was ſhewn alive. There was nothing particular in the circumſtances relating to the parents of the child. At the time of its birth, the woman who acted as midwife, terrified at the ſtrange appearance of the double head, endeavoured to deſtroy the infant by throwing it upon the fire, where it lay a ſufficient time before it was removed to have one of the eyes and ears conſiderably burnt.

The body of the child was naturally formed, but the head appeared double, there being, beſides the proper head of the child, another of the ſame ſize, and to appearance almoſt equally perfect, attached to its upper part. This upper head was inverted, ſo that they ſeemed to be two ſeparate heads united together by a firm adheſion between their crowns, but without any indentation at their union, there being a ſmooth continued union from the one to the other. The face of the upper head was not over that of the lower, but had an oblique poſition, the centre of it being immediately above the right eye.

When the child was ſix months old, both of the heads were covered with black hair, in nearly the ſame quantity. At this period the ſkulls ſeemed to have been completely oſſified, ex-

* Phil. Trans. R. S. Lond. 1799.

cept a ſmall ſpace between the oſſa frontis of the upper one, like a fontanel.

Of the ſuperior or inverted head it is obſerved, that no pulſation could be felt in the ſituation of the temporal arteries; but the ſuperficial veins were very evident. The neck was about two inches long, and the upper part of it terminated in a rounded ſoft tumor, like a ſmall peach. One of the eyes had been conſiderably hurt by the fire, but the other appeared perfect, having its full quantity of motion; but the eyelids were not thrown into action by any thing ſuddenly approaching the eye; nor was the iris at thoſe times in the leaſt affected; but when ſuddenly expoſed to a ſtrong light, it contracted, although not ſo much as it uſually does. The eyes did not correſpond in their motions with thoſe of the lower head; but appeared often to be open when the child was aſleep, and ſhut when it was awake.

The external ears were very imperfect, being only looſe folds of ſkin. There did not appear to be any paſſage leading into the bone which contains the organ of hearing. The lower jaw was rather ſmaller than it naturally ſhould be, but was capable of motion. The tongue was ſmall, flat, and adhered firmly to the lower jaw, except for about half an inch at the tip, which was looſe. The gums in both jaws had the natural appearance; but no teeth were to be ſeen either in this head or the other. The internal ſurfaces of the noſe and mouth were lubricated by the natural mucus.

The muſcles of the face were evidently poſſeſſed of power of action, and the whole head had a good deal of ſenſibility, ſince violence to the ſkin produced the diſtortion expreſſive of crying, and thruſting the finger into the mouth made it ſhew marks of pain. When the mother's nipple was applied to the mouth, the lips attempted to ſuck.

Mr. Stark, who reſided in Bengal at this period, endeavoured to aſcertain the mode in which the two ſkulls were united, as well as to diſcover the ſympathies which exiſted between the two brains. At the time he ſaw the child it was ſuppoſed to be about two years old. At this period the appearances differed in many reſpects from thoſe taken notice of when only ſix months old. The eyelids of the ſuperior head were never completely ſhut, even when the child was aſleep, and the eyeballs moved at random. When the child was rouſed, the eyes of both heads moved at the ſame time, but thoſe of the ſuperior head did not appear to be directed to the ſame object, but wandered in different directions: the tears flowed from the eyes of the ſuperior head almoſt conſtantly.

The ſuperior head ſeemed to ſympathiſe with the child in moſt of its natural actions. When the child cried, the features of this head were affected in a ſimilar manner, and the tears flowed plentifully. When it ſucked the mother, ſatisfaction was expreſſed by the mouth of the ſuperior head, and the ſaliva flowed more copiouſly than at any other time. When the child ſmiled, the features of the ſuperior head ſympathiſed in that action. When the ſkin of the ſuperior head was pinched, the child ſeemed to feel little or no pain.

When the child was about two years old, and in perfect health, the mother went out to fetch ſome water; and, upon her return, found it dead from the bite of a *Cobra de Capello*.

The double ſkull was afterwards ſent to Europe, and examined by Mr. Home, who gives the following account of its ſtructure and appearances.

'The two ſkulls which compoſe this monſtrous head appear to be nearly of the ſame ſize, and equally complete in their oſſification, except a ſmall ſpace at the upper edge of the oſſa frontis

of the ſuperior ſkull, ſimilar to a fontanel. The mode in which the two are united is curious, as no portion of bone is either added or diminiſhed for that purpoſe; but the frontal and parietal bones of each ſkull, inſtead of being bent inwards, ſo as to form the top of the head, are continued on; and, from the oblique poſition of the two heads, the bones of the one preſs a little way into the natural ſutures of the other, forming a zigzag line, or circular ſuture uniting them together.

'The meatus auditorius in the temporal bone of the ſuperior ſkull is altogether wanting. The brain of the ſkull is imperfect in ſeveral reſpects. The foramen magnum occipitale is a ſmall irregular hole, very inſufficient to give paſſage to a medulla ſpinalis; round its margin are no condyles with articulating ſurfaces, as there were no vertebræ of the neck to be attached to it. The foramen lacerum in baſi cranii is only to be ſeen on one ſide, and even there too ſmall for the jugular vein to have paſſed through.

'The oſſa palati are deficient at their poſterior part; the lower jaw is too ſmall for the upper, and the proceſſes are imperfect. The number of teeth in both ſkulls is the ſame, and is ſixteen.

'From an examination of the internal ſtructure of the double ſkull, the two brains have certainly been incloſed in one bony caſe, there being no ſeptum of bone between them. How far they were entirely diſtinct, and ſurrounded by their proper membranes, cannot now be aſcertained, but, from the ſympathies which were taken notice of by Mr. Stark between the two heads, I ſhould be inclined to believe that there was a more intimate connection between them than ſimply by means of nerves, and therefore that the ſubſtance of the brains was continued into one another.

'Had the child lived to a more advanced age, and given men of obſervation opportunities of attending to the effects of this double brain, its influence upon the intellectual principle muſt have afforded a curious and uſeful ſource of inquiry.'—

Mr. Dent's obſervations, in addition to thoſe above given, are the following.

The child was a male. Its father was a farmer at Mundul Gaut, in the province of Bardwan, who told Mr. Dent, that it was more than four years old at the time of its death.

The mother, who was thirty years of age, had three children, all naturally formed, and her fourth child was the ſubject of the preſent paper. Mr. Dent endeavoured to diſcover whether any imaginary cauſe had been aſſigned by the parents for the unnatural formation of the child; but the mother declared, that no circumſtance whatever, of an uncommon nature, had occurred: ſhe had no fright, met with no accident, and went through the period of her pregnancy exactly in the ſame way as ſhe had done with her other children.

The body of the child was uncommonly thin, appearing emaciated from want of due nouriſhment.

The neck of the ſuperior head was about four inches long; and the upper part of it terminated in a hard, round, griſly tumour, nearly four inches in diameter.

The front teeth had cut the gums, in the upper and under jaws of both heads.

When the child cried, the features of the ſuperior head were not always affected: and when it ſmiled, the features of the ſuperior head did not ſympathiſe in that action.

In preparing the ſkull, which unpleaſant operation Mr. Dent was obliged, from the prejudices of his ſervants, to ſuperintend, he found that the dura mater belonging to each brain was continued acroſs, at that part where the two ſkulls joined, ſo that each brain was inveſted in the uſual way by its own proper coverings; but the dura mater which covered the cerebrum of the upper brain, adhered firmly to the dura mater of the lower brain; the two brains were therefore ſeparate and diſtinct, having a complete partition between them formed by an union of the duræ matres.

When the contents of the double ſkull were taken out and the union of the duræ matres more particularly examined, a number of large arteries and veins were ſeen paſſing through it, making a free communication between the blood veſſels of the two brains. This is a fact of conſiderable importance, as it explains the mode in which the upper brain received its nouriſhment.

Before theſe obſervations were communicated by Mr. Dent, it was natural to ſuppoſe that the two brains had been united into one maſs; as it was difficult to imagine in what way the upper brain could be ſupplied with blood.

Med. and Chir. Rev.

*On the whitening of Bones.**

An ingenious paper on the whitening of bones, is furniſhed by Mr. Richard Smith, of Briſtol. 'In the ſpring of 1798,' Mr. Smith obſerves, 'I was ſtruck with the wonderful effects produced by the bleaching liquor of cotton and linen manufac-

* From Beddoes' "Contributions to Phyſical and Medical Knowledge."

turers. It immediately occurred to me, that its action upon bones was worthy of inveſtigation; and a favourable opportunity of trying it ſoon after preſenting itſelf, I was ſo convinced of its efficacy, that I immediately fitted up an apparatus for the purpoſe.

'I had at this time a cranium in my poſſeſſion, lately prepared, perfectly clean, and inodorous, but ſo brown, that I had thrown it aſide, as unworthy a place in the muſeum. This (together with the vertebræ of the neck) formed the ſubject of my firſt experiment. It was evident, that every good purpoſe might be anſwered by expoſing the bones to an oxygenated muriatic atmoſphere merely; and in order to accompliſh this, I adapted a cork with a ſtop-cock driven through it, to the aperture made for the candle, at the bottom of a common lamp-glaſs. A Florence-flaſk, which contained a quarter of an ounce of *black calx of manganeſe, mixed with half an ounce of muriatic acid*, ſerved for a retort, and a long-bent tube of glaſs fixed into its neck, enabled me to direct the product at pleaſure.

'The ſkull had been immerſed for twelve hours, in a weak cauſtic ſolution of potaſh; but whether this is abſolutely neceſſary, I have not yet aſcertained.

'The lamp which contained the head and ſeveral other bones, previouſly prepared in the ſame manner, was placed in a large trough of water. The ſtop-cock at the end, afforded me the means of filling it with water, by exhauſting the column of air above. Every thing being thus in readineſs, it remained only to diſlodge the water, by placing the flame of a ſpirit-lamp under the retort, and the extremity of the tube under the lamp-glaſs. In a few minutes, the yellow oxygenated muriatic acid gas, was evolved, and I perceived, that as the water ſunk, thoſe bones which were expoſed to its influence, aſſumed the ſame appearance.

'The operation was continued till the glaſs was emptied; but I found it neceſſary to continue the proceſs ſlowly, in order to recruit the air which had been abſorbed by the preparation and water; a circumſtance which was demonſtrated by the riſing of that fluid.

'In ſix or eight hours I removed the glaſs, and expoſed the head, which was of a bright golden colour, to the open air, and the rays of the ſun: as it dried it became paler, and covered with ſmall ſhining cryſtals (which were afterwards waſhed off in rain water), and I had ſoon the pleaſure to find it ſo beautifully white, that it exceeded in appearance every thing of the kind which I before poſſeſſed. The dark caſe in which it has been ſome time encloſed, has rather diminiſhed its whiteneſs; a circumſtance which uſually takes place where the light is excluded; but it ſtill retains its beauty ſufficiently to demonſtrate the ſuperiority of this proceſs.

'With old bones it does not ſucceed ſo well as with recent; but even theſe, in ſome caſes, were well bleached.'

Med. and Chir. Rev.

Alyon's Oxygenated Ointment.

Sixteen parts of freſh lard are melted in a glazed earthen veſſel, with a moderate degree of heat, and when melted, two parts of pure nitric acid of 32° are poured upon it; the heat is maintained till the mixture boils, when the veſſel is removed from the fire, and permitted to cool. In this operation the nitric acid is completely decompoſed. Two ounces of fat, treated with two drachms of acid, acquired one drachm in weight, and pure

azotic gas was collected in a proper apparatus. Although the proceſs ſeems extremely ſimple, it requires conſiderable dexterity to form an ointment always ſimilar in its effects and appearance. The greateſt difficulty is, to catch the moment when the decompoſition of the acid is completed; for the ſmalleſt increaſe of heat at that time, diſunites its principles, and ſeparates a quantity of carbon.

When well prepared this ointment has no taſte, and yields to the action of water neither nitric nor ſebacic acid; is of a yellowiſh-white colour, of a conſiſtence between ſuet and virgin wax, melts without alteration, and facilitates the oxydation of metals rubbed with it. If the acid be in exceſs, the ointment will not become firm, and its uſe will inflame the ſkin; if it be in too ſmall a quantity, it will be leſs active.

Fat may be made, M. Alyon obſerves, to decompoſe a greater quantity of acid, by adding it in different portions. The ointment then has little ſmell, is of a higher colour and firmer conſiſtence, and ſpreads eaſily on linen. This is preferable in diſeaſes of the ſkin, in herpetic and venereal ulcers, and may be uſefully employed in healing wounds, and atonic ulcers, while the leſs oxygenated ointment is better adapted for diſeaſes of the face.

Med. and Chir. Rev.

*An Account of the Pelagra, a Diſeaſe endemical in the Dutchy of Milan.**

This account is extracted from a treatiſe on the ſubject, written ſome years ago, by Dr. Janſen, of Leyden. He deſcribes this curious diſeaſe as follows:—

* From the Lond. Med. Rev. and Magazine.

"About the month of March or April, when the ſeaſon invites the farmers to cultivate their fields, it often happens, that a ſhining red ſpot ſuddenly ariſes on the back of the hand, reſembling the common eryſipelas, but without much itching or pain, or indeed any other particular inconvenience. Both men and women, boys and girls, are equally ſubject to it. Sometimes this ſpot affects both hands, without appearing on any other part of the body; not uncommonly it ariſes alſo on the ſhins, ſometimes on the neck, and now and then, though very rarely, on the face. It is alſo ſometimes ſeen on the breaſts of women, where they are not covered by the clothes, but ſuch parts of the body as are not expoſed to the air, are ſeldom affected; nor has it ever been obſerved to attack the palm of the hand, or ſole of the foot. This red ſpot elevates the ſkin a little, producing numerous ſmall tubercles of different colours; the ſkin becomes dry, and cracks, and the epidermis ſometimes aſſumes a fibrous appearance. At length it falls off in white furfuraceous ſcales, but the ſhining redneſs underneath ſtill continues, and in ſome inſtances remains through the following winter. In the mean time, excepting this mere local affection, the health is not the leaſt impaired, the patient performs all his rural labours as before, enjoys a good appetite, eats heartily, and digeſts well. The bowels are generally relaxed at the very commencement of the diſeaſe, and continue ſo throughout its whole courſe. All the other excretions are as uſual, and, in females, the menſes return at their accuſtomed periods, and in the proper quantity. But what is moſt ſurpriſing, is, that in the month of September, when the heat of the ſummer is over, in ſome caſes ſooner, in others later, the diſorder generally altogether diſappears, and the ſkin reſumes its natural healthy appearance. This change has been known to take place as early as the latter end of May or June, when it has only been in its earlieſt ſtage. The patients, however, are not now to be conſidered as well: the diſeaſe hides itſelf, but is not eradicated. For, no ſooner does the following ſpring return, but it quickly

re-appears, and generally is accompanied with ſeverer ſymptoms. The ſpot grows larger, the ſkin becomes more unequal and hard, with deeper cracks. The patient now begins to feel uneaſineſs in his head, becomes fearful, dull, leſs capable of labour, and much wearied with his uſual exertions. He is exceedingly affected by changes in the atmoſphere, and impatient both of cold and heat. Nevertheleſs he generally gets through his ordinary labour, with leſs vigour and cheerfulneſs indeed than formerly, but ſtill without being obliged to take to his bed; and as he has no fever, his appetite continues good, and the chylopoiëtic viſcera perform their proper functions. When the pelagra has even arrived at this ſtage, the returning winter, nevertheleſs, commonly reſtores the patient to apparent health; but the more ſevere the ſymptoms have been, and the deeper root the diſeaſe has taken, the more certainly does the return of ſpring reproduce it with additional violence. Sometimes the diſeaſe in the ſkin diſappears, but the other ſymptoms remain notwithſtanding. The powers both of the mind and body now become daily more enfeebled; peeviſhneſs, watchings, vertigo, and, at length, complete melancholy, ſupervene. Nor is there a more diſtreſſing kind of melancholy any where to be ſeen, than takes place in this diſeaſe.—'On entering the hoſpital at Legnano,' ſays Dr. Janſen, 'I was aſtoniſhed at the mournful ſpectacles I beheld, eſpecially in the women's ward. There they all ſat, indolent, languid, with downcaſt looks, their eyes expreſſing diſtreſs, weeping without cauſe, and ſcarcely returning an anſwer when ſpoken to; ſo that a perſon would ſuppoſe himſelf to be among fools and mad people, and, indeed, with very good reaſon; for gradually this melancholy increaſes, and at length ends in real mania. Many, as I had an opportunity of obſerving in this hoſpital, were covered with a peculiar and characteriſtic ſweat, having a very offenſive ſmell, which I know not how better to expreſs than by comparing it to the ſmell of mouldy bread. A perſon accuſtomed to ſee the diſeaſe would at once recognize it by this ſingle ſymptom. Many complained

of a burning pain at night in the ſoles of the feet, which often deprived them of ſleep. Some are affected with double viſion, others with fatuity, others with viſceral obſtructions, others with additional ſymptoms. Nevertheleſs fever ſtill keeps off, the appetite is unimpaired, and the ſecretions are regularly carried on. But the diſeaſe goes on increaſing, the nerves are more debilitated, the legs and thighs loſe the power of motion, ſtupor or delirium come on, and the melancholy terminates in confirmed mania. In the hoſpital at Legnano I ſaw both men and women in this maniacal ſtate. Some lay quiet; others were raving, and obliged to be tied down to the bed, to prevent them from doing miſchief to themſelves or others. In almoſt all theſe the pulſe was ſmall, ſlow, and without any character of fever. One woman appeared to have a ſlight degree of *furor uterinus*, for at the ſight of men ſhe became merry, ſmiled, offered kiſſes, and by her geſtures deſired them to come towards her. Some were occupied in conſtant prayers, ſome pleaſed themſelves with laughter, and others with other things. But it was remarkable, as Moſcati obſerved, that all who were in this ſtage of the diſeaſe had a ſtrong propenſity to drown themſelves. They now begin to grow emaciated, and the deſirium is often followed by a ſpecies of *tabes*. A colliquative diarrhœa comes on, which no remedy can ſtop, as alſo has been obſerved in noſtalgia. Sometimes in the pelagra the diarrhœa comes on before the delirium, and the delirium and ſtupor mutually interchange with each other. The appetite often ſuddenly fails, ſo that the ſick will ſometimes go for near a week without taſting food. Not uncommonly it returns ſuddenly, ſo that they eagerly devour whatever is offered them, and this even at times when they are horridly convulſed. The convulſions with which they are attacked are moſt ſhocking to ſee, and are of almoſt every kind, catalepſy excepted, which has been deſcribed by writers. I ſaw one girl in bed, who was violently diſtorted by opiſthotonos, and others with every ſpecies of tetanus. At length ſyncope and death cloſe the trage-

dy, often without any ſymptom of fever occurring through the whole courſe of the diſeaſe."

It appears that this diſeaſe is not infectious, nor is the cauſe producing it aſcertained. Dr. Janſen ſeems to place little or no reliance on any plan of treatment which has been hitherto employed. An account of the appearances on diſſection is given in a ſubſequent part of the volume; but it throws no light on the nature of the affection.

Med. and Chir. Rev.

On the Solution of Caoutchouc.

It is ſufficiently underſtood in general, that the proper and only effectual ſolvent of the *caoutchouc*, or elaſtic gum, is æther: yet vitriolic æther, as it is uſually procured, does not diſſolve it ſo perfectly, as to make it applicable to various purpoſes for which it is fitted. To render æther a perfect ſolvent of the caoutchouc, it is neceſſary it ſhould undergo the following proceſs, the invention of Mr. Winch, apothecary in London. A pound of æther is to be put into a bottle capable of containing about four pounds of any common liquid. On this are poured two pounds of pure water: the bottle is then ſtopped, held with the mouth downwards, and ſtrongly ſhaken, in order to mix the two liquors. On diſcontinuing the ſhaking, the æther ſoon ſwims uppermoſt; the bottle is ſtill held in the ſame poſition, and cautiouſly opened, keeping the thumb on the mouth of it. The water is by this means eaſily let off into a veſſel below. The ſame operation is to be repeated two or three times, with freſh quantities of water until the ſixteen ounces of æther are reduced to about five ounces. It is this purified æther that is found to be the moſt perfect ſolvent of elaſtic gum, which is to be thrown into the æther, after being cut into ſmall pieces.

The elaſtic gum begins to ſwell in a very ſhort time; and at the end of five hours, or longer, the liquor is ſaturated, and remains tranſparent. If there be a ſurplus of elaſtic gum, it ſubſides to the bottom, and on being taken out of the liquor, may be moulded into any form, and will preſerve its elaſticity.

To form a tube (or other ſhape) of elaſtic gum, Mr. Cavallo employs the following method. A ſmall cylinder of pipe-clay is firſt prepared, of the diameter and length of the intended tube. It is not to be baked, but ſimply to be dried. The æther ſaturated with gum, is poured into a caſe of glaſs, or tin, which ſhould be a little longer than the clay cylinder; this is filled up to the brim. The operator then plunges the whole length of the clay pipe into the æther, withdraws it ſuddenly, lets it remain for an inſtant in the air, re-plunges it anew, and repeats the operation in proportion to the intended thickneſs of the tube; for each immerſion and evaporation produces a ſmall coating. This being done, the clay cylinder, covered with elaſtic gum, is plunged into a veſſel of water; the mould of clay is there ſpeedily diſſolved, and the gum remains in the ſtate of a perfect tube.

The water uſed in waſhing the æther ſhould be preſerved, as a part of the æther mixed with it may be recovered by diſtillation.

Med. and Chir. Rev.

*Proceſs followed in Suabia, for making the eſſential Salt of Sorrel.**

This ſalt, which is employed for the purpoſe of taking iron-moulds, and ſpots of ink, out of linen, is likewiſe very com-

* The ſalt ſold in England for the purpoſe of taking ink-ſpots and iron-moulds out of linen, &c. and which is called *eſſential ſalt of lemons*, is prepared from ſorrel, in the manner mentioned above.

monly uſed in France as a ſubſtitute for the juice of lemons, (to which it is not at all inferior in flavour, or in wholeſomeneſs,) in acidulated drinks, and other things of like deſcription. The chief part of this ſubſtance is procured from Germany, from that canton which is called the *Black Foreſt*. There it is prepared by the peaſantry, who carry it to the town of *Baſle*, whence it is diſtributed to moſt parts of the world. The following is the proceſs employed in the preparation of this ſalt, as communicated by M. *Baunach*, chief apothecary to the military hoſpital at Breſt.

This ſalt is chiefly procured from that ſpecies of ſorrel, known by botaniſts under the denomination of *rumex acetoſa foliis ſagittatis* (Lin.) The ſeeds of the plant are ſown in extenſive fields in the month of March. It grows vigorouſly, and is fit for cutting in June. When cut, it is immediately depoſited in a proper mill, where it is ſufficiently bruiſed, and the juice and pulp diluted with a quantity of water, and ſuffered to ſtand for ſome days, when the whole is ſubmitted to the preſs, much in the manner that grapes are managed in the manufacture of wine.

The juice of the herb, however abundant it may ſeem, is by no means ſufficient for holding in ſolution all the eſſential ſalt contained in the plant; for which reaſon water is added, as we have ſeen; the part remaining after preſſure is again moiſtened with a quantity of water, as before, and again preſſed; and the operation is thus repeated three or four times, or as long as the plant is found to contain any extractive matter.

The whole of the juice, thus collected, being depoſited in a tub, or other proper veſſel, ſome water is added, in which a quantity of pure white argillaceous earth is diffuſed (twenty pounds of clay are uſually put to twelve hundred pints of the juice); it is left to ſettle for twenty-four hours, and then decanted, the remainder being repeatedly waſhed and filtered

through woollen cloth. The juice thus clarified is evaporated by a gentle heat, till a pellicle forms on the ſurface, when it is ſet by, in proper veſſels, for a month, to cryſtallize. The remaining liquor is ſubjected to a ſecond and third evaporation and cryſtallization, till no more of the eſſential ſalt is afforded. The mother lye which remains is found to contain a conſiderable quantity of the *ſalt of ſilvius*, together with a ſmall portion of vitriolated tartar; it likewiſe effervesces with alkalies.

The cryſtals thus obtained by the different operations, are purified by a further ſolution in water, filtration and evaporation; when pure white cryſtals are procured for uſe. The other ſpecies of ſorrel afford a ſalt of the ſame kind.

From a pound weight of the leaves treated as above, may be obtained as follows:—

One drachm of pure eſſential ſalt.
Four grains of *ſalt of ſilvius.*
One quarter of a grain of vitriolated tartar; and
Four ounces of extractive matter.

Med. and Chir. Rev.
from Bayen's Opuſcules Chymiques.

Method of purifying Molaſſes.

M. *Devaux*, of Peterſburgh, communicates a method of purifying molaſſes from its ſharp taſte; viz. by mixing equal quantities of molaſſes and water, with an eighth part of powdered charcoal, and boiling them together for half an hour over a

moderate fire. On cooling, the charcoal ſubſides, and the ſuperfluous water is afterwards diſſipated by evaporation.

Med. and Chir. Rev.

Acid of Sugar formed on Scrophulous tumours by immerſion in Spirit of Wine.

Mention is made *in Hufeland's* journal, of a curious fact, that may poſſibly throw ſome light on the nature of ſcrophula. Some ſcrophulous tumours being immerſed, for the purpoſe of preſervation, in ſpirit of wine, their ſurfaces were, after ſome time, found covered with fine priſmatic cryſtals, which, on being ſubmitted to the proper chemical teſts, were found to conſiſt almoſt wholly of the acid of ſugar.

Ibid.

Method of deſtroying the offenſive Smell of Privies, Night-Chairs, &c.

The following is given, as a cheap and effectual means of deſtroying the offenſive ſmell of privies, night-chairs, &c. an object of no ſmall conſequence both in regard to health and comfort. If a certain quantity of milk of lime (water in which lime has been recently ſlaked, and poured off previous to its ſettling) be mixed with a ley of aſhes, or even ſoapy water that has been uſed for waſhing, and thrown into the ſink of a privy, or other convenience for the ſick room, it will immediately deſtroy the offenſive odour. It will readily be conceived, that the purpoſe may be more ſimply anſwered, by mixing together a few

pounds of quick lime, a ſmall quantity of wood-aſhes, and a bucket of water. *Med. and Chir. Rev.*

Efficacy of cold Water in Hernia.

M. *Lombart*, firſt ſurgeon at Rethel, communicated to the ſociety of Medicine at Paris, an account of the good effects experienced from compreſſes moiſtened with cold water, and applied immediately to the ſurface of the tumefied inteſtines, after the operation for hernia had been performed. He was by this practice enabled to reduce with facility the protruded inteſtine, after having in vain attempted it by the ordinary means, and even by enlarging the dimenſions of the wound.

Med. and Chir. Rev.

Sheldon, on the Preſervation of anatomical Subjects.

The following is ſaid to be Mr. John Sheldon's method of preſerving, entire, anatomical ſubjects, and which it effects in a very ſurpriſing manner. He injects ſeveral parts of the body with ſtrong ſpirits of wine, ſaturated with camphire, and mixed with a ſmall quantity of turpentine. The ſkin is prepared with finely-powdered alum, rubbed on with the hand. The inteſtines are taken out, and covered with a varniſh compoſed of a mixture of camphire and common reſin. All the internal parts of the body undergo the ſame operation, and are afterwards rubbed with alum. The body, thus prepared, is laid on a bed of calcined chalk to the thickneſs of an inch, in order to abſorb all humidity, and is then placed in a double caſe of wood, the inner of which is of cedar. In this manner Mr.

Sheldon has been able to preſerve for ſeveral years the body of a young woman, which retains its form and appearance nearly as perfect as in life. Even the natural tint of the ſkin of the face is preſerved, by a coloured injection impelled through the carotids to produce that effect.

Med. and Chir. Rev.

Biliary Concretion voided by Stool.

A caſe of biliary concretion voided by ſtool, is communicated by Mr. Woollett, of Monmouth. The patient had been ſubject to ſymptoms indicating the preſence of gall-ſtones for twenty years, before he voided the one here mentioned. It reſembled a kidney in ſhape, its greateſt circumference being five inches and two-thirds: its weight ſeventeen ſcruples, eight grains. The patient continued well afterwards.

Med. and Chir. Rev.
from Lond. Med. Rev. and Magazine.

Hyoſciamus in Hooping-Cough.

The *hyoſciamus* is ſtrongly recommended in the treatment of hooping-cough. Of the extract of this plant, ten grains were diſſolved in two drams of antimonial wine. Infants of a year old took about two grains in twenty-four hours, augmenting the doſe according to age. When the fit of coughing was exceedingly violent, and threatened ſuffocation, it was often terminated by exciting vomiting, by means of the finger, or a feather dipped in oil, and thruſt into the fauces. When the inflam-

matory ſymptoms had ſubſided, and emetics had been premiſed, the Peruvian bark was exhibited with much advantage. In caſes of worms, *ox-gall*, given in the form of pills, is highly ſpoken of, both as an anthelmintic and antiſpaſmodic.

Med. and Chir. Rev.
from Brewer's Bibliotheque Germanique.

Aſcarides paſſed from the Bladder of Urine.

The ſecond number of the *Bibliotheque Germanique* commences with a caſe of *aſcarides*, paſſed from the bladder along with the urine; as related by Dr. *Kuhn*, phyſician at Eiſenach. (*Gazette Medicale Allemande, May*, 1795.) The moſt common ſeat of worms in the human body is, in thoſe ſituations which have a communication, more or leſs direct, with the external air, as the inteſtinal canal. But they have been found likewiſe, in ſituations, which it is difficult to account for their arriving at; this is the caſe with the urinary bladder, from which different perſons have obſerved them iſſue, both the *round-worm*, the *hydatid*, and alſo, the *aſcaris*; of which laſt, an inſtance is here furniſhed, in a child, ſix years of age, who, after ſuffering ſeverely, for ſome hours, cataleptic ſymptoms, paſſed with his urine above two hundred living *aſcarides:* after which the ſymptoms diſappeared, without recurrence. None of the worms were paſſed by ſtool, though ſtrong purgatives were adminiſtered.

Med. and Chir. Rev.
from the ſame.

Two Caſes of the ſucceſsful Termination of Wounds, hitherto deemed incurable.

The firſt of theſe was a diviſion of the internal jugular vein, in conſequence of the extirpation of a large tumour ſeated on the left ſide of the neck, and which reſembled cancer. This paſſed ſo deep as to form a connexion with the internal jugular, which was neceſſarily divided, but the bleeding from which was readily reſtrained by ligatures. The parts afterwards healed in the uſual way. The ſecond caſe was of a wound in the uterus, which, though claſſed amongſt mortal ones by the older writers, has many exceptions: a woman had laboured under *aſcites* for ſeveral years, for which the *paracenteſis* was performed, with relief of the ſymptoms. On a ſecond collection taking place, the operation was repeated; when, inſtead of water, a diſcharge of blood followed to the amount of ſix ounces: the blood ceaſed to flow on withdrawing the canula. It turned out that the woman was five months gone with child at the time; and ſhe was delivered of a healthy infant at the uſual period, having ſuffered no inconvenience from the operation. She was afterwards again tapped for a further accumulation.

Med. and Chir. Rev.
from Med. Facts and Obs.

Smyth's flexible metallic Bougies and Catheters.

We mentioned in a curſory way, a ſhort time ago, the invention of flexible metallic bougies and catheters, by Mr. *Smyth*, apothecary, of *Taviſtock ſtreet*. Having ſince had an opportunity of examining them, and of witneſſing their application, we are enabled to ſpeak more decidedly of their merits. They ap-

pear to be equally flexible with the common plaiſter bougie, without the inconvenience of being readily broken, or yielding too much, from the heat of the parts to which they are applied. At the ſame time, they poſſeſs ſufficient firmneſs for any degree of force, which it can be proper to make uſe of, in overcoming an obſtruction mechanically; and they are readily ſuſceptible of a very high poliſh. When theſe properties are conſidered, together with their durability, as with moderate care they may laſt for many years, we have no doubt they will be conſidered as an important and valuable diſcovery.

Med. and Chir. Rev.

Uncommon Doſes of Zinc in Epilepſy.

'Another caſe which occurs to my memory as worthy of medical record, from the uncommon violence of the diſeaſe, and the uncommon quantity of zinc given to ſubdue it, is one of epilepſy, by much the moſt alarming I ever met with, in thirty years practice. The paroxyſms returned four times in twenty-four hours, with wonderful violence; whilſt each fit was accompanied by a moſt diſtreſſing tetanus, that drew the patient's head backwards in a frightful manner, and rendered it impoſſible to keep him in bed, without uſing ſuch violence as threatened the diſlocation of ſome member; ſo that we were obliged to let him roll about on the floor of a room ſpread with matraſſes.

'The young ſufferer was a gymnaſiſt of the imperial corps of noble cadets, aged ſixteen, who was carried into the lazaret, or hoſpital of the eſtabliſhment, in the deplorable ſtate mentioned above; brought on, as we were informed, by a fright ſometime before: but his mother, a poor widow, had concealed his

being ſubject to the diſeaſe, leſt he ſhould have been refuſed admittance into the corps.

'As the caſe was highly alarming, nature being unable to ſuſtain long ſo violent a conflict with ſcarce any intermiſſion, I formed the reſolution of giving the flowers of zinc with empiric boldneſs; and, after ordering ten ounces of blood to be taken from the arm, as the youth was plethoric, I gave him eight grains of *flor. zinc.* the firſt day, with conſerve of roſes, and augmented the doſe by four grains every fourth day, till the thirty-ſecond from the attack; when it amounted to two ſcruples, or forty grains, which he took for a month conſecutively, till every veſtige of the diſeaſe was gone.

'No other medicine was found neceſſary during the whole cure, as the zinc kept his body ſufficiently open; and it was highly intereſting to obſerve, that, in proportion as the doſe of the ſedative mineral was augmented, the diſeaſe gradually diminiſhed in frequency and violence; firſt, to three fits a day; then to two; next, to one; till, on the thirty-ſecond, the doſe of two ſcruples completely overcame the ſpaſms, and the diſeaſe finally vaniſhed, never, I hope, to return, as he has now been two years without a ſingle fit.

'The diſtreſſing tetanus diminiſhed likewiſe in violence with the paroxyſms of epilepſy, though it never left our young patient till the whole ceaſed together at the epoch mentioned above, although I thought it prudent to continue the large doſe of two ſcruples for a whole month, to enſure the permanence of the cure, as no diſagreeable conſequences ever attended the exhibition of the zinc, except a little trifling nauſea towards the beginning, which went off without giving us any trouble. I muſt not forget to remark, that the doſe was alway divided into two equal parts; one to be taken in the evening, the other in the morning.' *Med and Chir. Rev.*

from Duncan's Annals.

Experiments on the gazeous Oxide of Azote, by a Society of Amateurs, at Toulouſe; communicated by M. P. DISPAN, *Profeſſor of Chemiſtry in the college of that city, to the Editors of the Annales de Chimie.*

The different, and even contradictory reſults, which have been publiſhed, from time to time, reſpecting the effects produced by the reſpiration of the gazeous oxide of azote, led to the following experiments, which were performed on more than a dozen perſons, and in ſome caſes repeated two or three times on the ſame individual. The ſenſations experienced by each, were carefully noted down at the moment, and the following account is drawn from theſe memorandums.

The nitrate of ammonia employed in theſe experiments, was indiſtinctly cryſtallized, but perfectly neutral. Its taſte was extremely pungent, with a ſlight odour. It had been formed by ſaturating very pure nitric acid with ammoniacal gas obtained from the diſtillation of ſal ammoniac with the common pot-aſh of the ſhops.

About 1545 grains of this ſalt were put into a ſmall retort, and placed on a ſand bath; the ſalt melted and boiled for a ſhort time without yielding any gas, but at length the retort became filled with a white vapour, which however quickly diſappeared; after which the gas was rapidly diſengaged and received in bladders.

The ſame proceſs was performed on a larger ſcale, 10 oz. troy of the ſalt being employed, from which a ſufficient quantity of gas was obtained to fill eight bladders. In this laſt caſe, a red vapour aroſe within the retort as it began to cool, which was aſcertained by experiment to contain no nitrous gas.

The gaſeous oxide of azote, when taſted or inhaled, is generally allowed to poſſeſs a ſtrong ſaccharine taſte, which fre-

quently remains on the organs during the whole day after receiving it. M. Diſpan obſerved in it an after-taſte of nitre, but acknowledges that it was the laſt collected gas which he taſted. Another gentleman belonging to the Society, perhaps under a ſimilar impreſſion, ſays he perceived in it an aſtringent quality.

In theſe experiments the gas was reſpired by means of a bladder furniſhd with a ſtop-cock, which was applied to the mouth; the noſtrils being cloſed, and the lungs emptied as much as poſſible.

The firſt perſon upon whom the experiment was tried, ſwooned at the third inſpiration, and remained ſenſeleſs about five minutes, when he recovered, but with a ſenſation of great laſſitude and fatigue. He recollected to have experienced only a ſudden faintneſs, attended with a tingling at the temples.

The ſecond, M. de M. obſerved a ſaccharine aſtringent taſte; he experienced a ſenſe of great dilatation, accompanied with heat in the breaſt; his veins ſwelled, his pulſe quickened, and he became vertiginous. But he thought he could have borne a ſtronger doſe, the bladder not being large enough for his lungs.

The third experienced a ſaccharine taſte on the firſt inſpiration, but was inſenſible to thoſe which ſucceeded; his lungs were forcibly dilated with great heat. When the bladder was removed, he appeared very comfortable, but could not refrain from violent burſts of laughter.

The fourth individual ſubjected to this experiment experienced the ſame ſaccharine taſte as thoſe who preceded him, and he retained the impreſſion from ten o'clock in the morning till paſt midnight. His legs trembled under him, and he became frequently vertiginous during the remainder of the day.

The fifth perceived the ſame ſaccharine taſte. On reſigning the bladder he was ſeized with dizzineſs, ſucceeded by a ſenſation of great pleaſure throughout the body; he felt likewiſe a ſenſe of great weakneſs in his lower extremities.

The ſixth ſubject of this experiment perceived the ſaccharine taſte throughout the remainder of the day; his ears tingled, his legs tottered, his ſtomach was oppreſſed, and altogether his ſenſations were rather painful than agreeable.

With the view of aſcertaining if the mode of breathing from a bladder might produce any influence on the foregoing reſults, the ſame individuals were requeſted to inſpire atmoſpheric air in the ſame manner. They were all fatigued by it, but nothing more. The bladders were next filled with oxygen gas; and the only difference between it and common air was, that it produced an increaſe of heat in the lungs. The ſingular effects, therefore, which are deſcribed above, can only be attributed to the gazeous oxide of azote.

At a ſubſequent meeting of the ſociety, other and more extenſive experiments were entered on. $27\frac{1}{2}$ ounces troy of nitrate of ammonia, prepared as before, were put into a retort, with its neck fitted to a double-bodied receiver; from whence, by means of a tube, the gas paſſed into a veſſel inverted over water. The retort was placed on a ſand-bath. As ſoon as the heat affected the retort, the ſalt melted; and nearly at the ſame moment ſparkling vapours aroſe in the retort, but in a very ſmall quantity. The air which the heat expelled from the veſſels had a nitrous odour; but this, as well as the vapours, gradually diminiſhed; as the proceſs continued, they diſappeared however altogether, and were ſucceeded by a lively ſmell of Pruſſic acid. At length the retort became filled with white vapours, and the gaſeous oxide of azote began to paſs over. The diſengagement ſoon became ſo abundant, that it was judged proper to withdraw the fire; but afterwards, on replacing the

coals, the gas which had diminiſhed in the interval, was again ſo rapidly evolved, that the luting of the veſſels began to give way; yet, notwithſtanding the loſs thus occaſioned, the diſengagement continued extremely rapid in the receiver for at leaſt a quarter of an hour.

M. Diſpan ſuppoſes, that an exploſion was only prevented in this caſe by the luting having given way. He next proceeds to ſtate the effects which were produced by the reſpiration of the gas. Twelve perſons were ſubjected to the experiment, and on many it was repeated. Moſt of them had inhaled the gas on the former trials, when two out of ſeven experienced pleaſing ſenſations, but on the preſent occaſion not one felt pleaſure; on the contrary, they all felt pain, and many of them ſuffered ſeverely. One perſon in particular ſtamped with his foot during the whole time of breathing the gas. When the bladder was removed, he recovered from the profound ſtupor into which he had been thrown, and complained of a pain in the back part of his head, as if he had received a violent blow from a dagger; his ſenſations were ſo painful that he could not be prevailed on to make a ſecond trial. The other individuals were in general affected with vertigo and dizzineſs, ſucceeded in ſome by involuntary convulſive fits of laughter.

M. Diſpan's deſcription of the effect of this gas upon himſelf is thus recorded. "At the firſt inſpiration," ſays he, "I emptied the bladder, on which I felt a ſaccharine taſte in my mouth, and my lungs immediately became inflated. I emptied and filled them again; but upon the third attempt, my ears were affected with a tingling noiſe, and I dropped the bladder. I did not, however, wholly loſe my conſciouſneſs, but remained in a kind of benumbed aſtoniſhment, rolling my eyes about at random. I was then ſuddenly ſeized with convulſive fits of laughter, ſuch as I had never before experienced; in a few ſeconds, however, this propenſity to laugh ſuddenly ceaſed, and I no longer felt any unpleaſant ſymptoms."

Two others, on whom the gas was tried, experienced only a convulſive motion of ſome of the muſcles of the face; but were, in the courſe of the day, attacked with violent diarrhœa.

M. Diſpan is of opinion, from every thing he obſerved, that it will be extremely difficult to reduce the effects of gazeous oxide of azote to any general ſyſtem, as they vary ſo conſiderably on different individuals: and, what is more ſingular, even on the ſame perſon.

This paper is concluded with an account of ſome experiments made by M. D. in order to aſcertain the effects of gaſeous oxide of azote upon animals. He placed a green-finch in a veſſel of ſufficient dimenſions, and filled it with the gas in queſtion. At firſt, the bird ſeemed to ſuffer no inconvenience, but he ſoon gradually cloſed his eyes, and dropped gently on his ſide, as if aſleep. On being reſtored to the pure air, he reſumed his feet, without however attempting to fly away. About an hour afterwards, he was ſubjected to a ſecond trial, and having been ſuffered to remain longer in the veſſel, he was taken out quite dead. M. Diſpan thinks it very remarkable, that the bird ſhould make no effort to eſcape, or that he ſhould manifeſt no convulſive ſymptoms, ſuch as take place in experiments with other gaſes.

Med. and Phyſ. Jour.

MEDICAL COMMENCEMENT.

At a Medical Commencement held in the Univerſity of Pennſylvania, on Friday April the 10th, the following gentlemen were admitted to the degree of Doctor in Medicine, having defended the Theſes attached to their names.

George Cheyne Shatluck, of Maſſachuſetts. On Hydrocephalus internus.
Thomas Bryant, of Pennſylvania. On Tetanus.
Samuel B. Smith, of Pennſylvania. On the means of preſerving health in youth and old age.

Henry Neill, of Pennſylvania. On Bubonocele.
Alexander Knight, of Pennſylvania. On Vaccination.
James Glen, of Pennſylvania. On Dyſentery.
Edward Lowber, of Pennſylvania. Inflammation of the viſcera in yellow fever.
William Baldwin, of Delaware. On the diſeaſes which appeared in a voyage to India.
Edward Anderſon, of Maryland. On the Rhododendron maximum, and punctatum.
James Thomas, of Maryland. On the cauſe of inflammation in wounded cavities.
William Hoomes of Virginia. On Puerperal fever.
James M'Dowell, of Virginia. On the Phytolacca decandra.
Robert Miller, of Virginia. On the ſedative effects of Cold.
James Kello, of Virginia. Againſt the vitality of the blood.
David Moore, of Virginia. On Ophthalmia.
Eliſha Clark, of Virginia. On Æſculus pavia, lutea, and ſpicata.
Peter T. Beaſly, of Virginia. On Epigea repens, and Gaultheria procumbens.
James Minor, of Virginia. On Concuſſion of the brain.
Thomas B. H. Grey, of Virginia. On Cynanche trachealis.
George Thornton, of Virginia. On the ameliorating effects of medicine.
William R. Nelſon, of Virginia. On Apoplexy.
William Steptoe, of Virginia. On Animal ſympathy.
Charles B. Robinſon of Virginia. On Dyſentery.
Peter Cuſtis, of Virginia. On Abſorption.
John Gilmer, of Virginia. On the Bilious fever which appeared in the county of Albermarle, in the year 1806.
Daniel Dobbins, of Virginia. On the Scurvy.
Cornelius Dupont, of South Carolina. On Digeſtion.
Samuel W. Ferguſon, of South-Carolina. On the ſedative effects of col[illegible].
John Ramſay, of South-Carolina. On Cataract.
Baron John de Bretton, of the iſland of St. Croix. On Menſtruation.
Richard Brown. On the application of phyſiognomy to medical ſcience.

The following Facts are laid before the Public for the encouragement of thoſe, who entertain any doubt reſpecting the efficacy and ſucceſs of Vaccine Inoculation; and to confirm others in their good opinion of that ineſtimable bleſſing.

In March, 1800, having previouſly informed myſelf of the ſafety and efficacy of the Cow-Pock, I began to inoculate my

two pariſhes *Leckhamſtead* and *Akely*, near *Buckingham*. I was induced to do this *at that particular time*, becauſe the Grand Junction Canal was in its progreſs to my immediate neighbourhood, which, like every other great work employing vaſt bodies of men from diſtant quarters, would probably introduce the ſmall-pox. It was my wiſh that the labourers of theſe pariſhes ſhould have the benefit of the high wages given on ſuch occaſions, without being expoſed to the danger of that dreadful peſtilence.

Having been in the habit of adminiſtering medicines to the poor, my offer to inoculate them was very generally accepted; and eſpecially as moſt of theſe people are employed in milking. The *common* anſwer of ſuch perſons to my propoſal was, "*We all know that nobody* EVER DIED OF THE COW-POCK, *and we all know that nobody* EVER HAD THE SMALL-POX *after it*: *But what an odd thing it is, that any body ſhould think of* INOCULATING *with it!*"

For *my part* I thought it very odd, theſe two facts being ſo generally known, that no one ſhould have attempted it ſooner.

I had no intention of proceeding in this practice beyond my own pariſhes; but I was ſoon applied to by a clergyman, to whom I have been more than twenty years curate, to inoculate at *Greens-Norton* near *Towceſter*, the ſmall-pox having broke out in two families. I readily conſented on condition that he would prepare the minds of the people, to whom I was but little known. In this he met with oppoſition, and in the reſult, about *five hundred* perſons were inoculated with the *ſmall-pox*, and *twenty-eight* by me, with the COW-POCK.

I ſtarted the ſame day as the hired inoculator. On the eighth I inſpected the parties, and finding that they were all decidedly infected with the COW-POCK, I deſired them to give what

aſſiſtance they could to the people, who were falling very faſt with the *Small-Pox*, and in great diſtreſs for nurſes; *two hundred*, at one time, being in a helpleſs condition. Of theſe *twenty-eight* patients of mine, many ſlept with *Small-Pox* patients, and even with ſome, who died in a moſt dreadful condition.

The neighbouring villages were ſatisfied with this teſt, and in the following month I inoculated more than *one thouſand* perſons, who were apprehenſive, that a very great fair at *Towceſter* on old May-day, would ſpread the *Small-Pox* over the whole ſurrounding country.

On the application of clergymen and other reſpectable inhabitants, I have inoculated, within ten miles of my reſidence, upwards of *four thouſand ſeven hundred* perſons, many in ſituations greatly expoſed to infection.

In Autumn, 1804, the *Small-Pox* raging among the people employed at the tunnel of the Grand Junction Canal, I inoculated in the neighbouring towns of *Stoke-Bruern*, *Shuttlehanger* and *Paulerſpury*, *five hundred and ſeventy*. In the ſummer of 1805 I inoculated *two hundred and ſeventy* at *Potterſpury*, the *Small-Pox* being at that time in two houſes of the village.

In the whole of my practice I have inflexibly avoided accepting any fee or preſent, except in two inſtances, where I had no choice. I am therefore not to be treated otherwiſe than as an independent evidence. In that character I make the following declarations :—

1*ſt*. After a practice of more than ſix years no inſtance has occurred of any one inoculated by me being afterwards infected with the *Small-Pox*.

2dly. I never, during that period, have ſeen a ſingle arm, that required ſurgical aſſiſtance, or any other dreſſing further than a little oil or milk and water.

3dly. I never knew an inſtance of a life being endangered or a taint left in the conſtitution by the Cow-Pock. On the contrary I can produce perſons, who date a period of health, unknown before, from the turn of the Cow-Pock: the diſeaſe having apparently a tendency to cleanſe the conſtitution.

If any candid perſon wiſhes to be more fully informed, let him devote a fortnight to the full inveſtigation of this ſtatement *on the ſpot;* I promiſe him the uſe of my liſts, and recommendations to fit perſons in every pariſh where I have ſet my foot: and this is the only method I propoſe of ſupporting the above aſſertions; as local benefit to my neighbours, and not public fame or emolument, has been the object of

J. T. A. REED,
Curate of Leckhamſtead and Akely.

Nov. 8th, 1806.

Juſtice impels the Editor to introduce the following extract, as an appendage to the communication, in the laſt volume of the Muſeum, on the ſubject of the adulteration of Britiſh Malt Liquors.

CRIMINAL INFORMATION.

Sir Vickary Gibbs applied for a rule to ſhew cauſe why a criminal information ſhould not be filed againſt the proprietor of a daily newſpaper, for the publication of a libel upon all the porter brewers of the metropolis. The intention of the paragraph was to repreſent that the porter drank in this city was compounded chiefly of ſtrong narcotic poiſons, exceedingly deſtructive of the health of the inhabitants. Although the

libel was of a very general nature, without attaching itſelf upon particular individuals, yet it was in ſuch a form, that the court would not heſitate in granting the information, when they conſidered that it was capable of overthrowing the whole trade. It was ſtated in the libel, that the chief ingredients compoſing London porter, were *opium*, *ſolanum*, or night-ſhade; *datura ſtramonium*, or thorn-apple; *cynogloſſum*, or hound's-tongue; *Coculus Indicus*, *nux vomica*, and *tobacco*; and the publication attributed moſt of the apoplexies in London to the uſe of this beverage; further, leſt the *dictum* of the author ſhould not be ſufficiently ſatisfactory, it ſtated, that ſuch was the opinion of the moſt learned phyſicians. Sir Vickary Gibbs added that his inſtructions were received from almoſt all the principal porter-brewers of the metropolis, who all depoſed that their beer was never brewed with any of the ingredients charged in the libel, but ſolely with malt and hops. The learned counſel ſaid he had likewiſe to make the ſame motion againſt five other newſpapers.

The court deſired that one of the affidavits containing the denial above ſtated, ſhould be read, and likewiſe directed that an affidavit ſhould be prepared, ſigned by the applicants, in which it ſhould be ſtated, not only that the porter was brewed without containing any of the poiſonous ingredients, but alſo that it was not ſold when compounded with them. Until this was done, a rule *niſi* to ſhew cauſe was granted.

Engliſh Newſpaper.

CORRESPONDENCE.

SIR,

I have been much engaged in buſineſs for ſome days paſt, which has obliged me to walk through our ſtreets more frequently than I have been accuſtomed to, for many years; I

have been ſtruck with the appearance of the mammiliæ of our young females, they appear to be more prominent, from the age of ten to fifteen years, than they were in my youthful days. Pray ſir, do you aſcribe this, to a change in our *climate*, to the general *looſe manners* of the age, or to the cuſtom of reading *novels* and other *love-tales?* If my memory ſerves me, I think I have ſeen a remark made by an old phyſician, that the ſecretion of the ſeminal fluid in the male organs, is very much increaſed by reading laſcivious books. May not the above works have a tendency to inflame the paſſions of our young girls, and by conſent of parts, or as you phyſicians would ſay, by ſympathy, operate on the lacteal veſſels, and conſequently prepare them *earlier* for that uſe, which nature has deſtined them to perform.

I wiſh ſome able phyſiologiſt would favor us through the medium of your uſeful publication with a ſolution of this queſtion.

FAMMA.

P. S. Should the young ingenious men, who are in the habit of communicating to you their thoughts on generation, be fearful of offending by touching on theſe delicate parts, an eſſay in Latin or French will be acceptable to many of your readers, who are no phyſicians, but fond of prying into the arcana of nature.

Philad. Pine Street, Auguſt 26th, 1806.

JOHN R. COXE, M. D.

DEATH.

John Vaughan, of Wilmington, Delaware.

MEDICAL AND PHILOSOPHICAL REGISTER.

FOREIGN AND DOMESTIC.

Obſervations on the Camel's Stomach reſpecting the Water it contains, and the Reſervoirs in which that Fluid is incloſed; with an Account of ſome peculiarities in the Urine. By EVERARD HOME, ESQ. F. R. S.*

THE Board of Curators of the muſæum belonging to the Royal College of Surgeons, (late Mr. John Hunter's,) hearing that a camel in a dying ſtate was to be ſold, purchaſed it with a view of illuſtrating the anatomy of that animal; and Mr. Home, as profeſſor of comparative anatomy, was appointed to examine the peculiarities of the ſtomach. The paper here publiſhed contains the report made on the ſubject.

The camel, the ſubject of the following obſervations, was a female, brought from Arabia; twenty-eight years old, and ſaid to have been twenty years in England, and twelve years in the poſſeſſion of the perſon from whom the Board of Curators purchaſed it. Its height was ſeven feet from the ground to the tip of the anterior hump.

In December, 1805, it came under the care of the committee. At that time it was ſo weak as hardly to be able to ſtand. It got up with difficulty, and almoſt immediately kneeled down

* Philoſophical Tranſactions. Part. II. for 1806.

again. By being kept warm, and well fed, it recovered ſo as to be able to walk, but was exceedingly infirm on its feet: and moved with a very ſlow pace. It drank regularly every ſecond day ſix gallons of water, and occaſionally ſeven and a half; but refuſed to drink in the intervening period. It took the water by large mouthfuls, and ſlowly, till it had done. The quantity of food it daily conſumed was one peck of oats, one of chaff, and one-third of a truſs of hay. Some of the urine was ſaved, and ſent to Mr. Hatchett for the purpoſe of having it analyſed: his account of its component parts is contained in a report annexed to this paper.

In the beginning of February, 1806, it began to ſhed its coat. Towards the end of March the wind became extremely cold, and the animal ſuffered ſo much from it, that it loſt its ſtrength, refuſed its food, and drank only a ſmall quantity of water at a time.

In this ſtate it was thought adviſeable to put an end to ſo miſerable an exiſtence: and it ſuggeſted itſelf to the committee that if this was done ſoon after the animal had drank a quantity of water, the real ſtate of the ſtomach might be aſcertained.

On the 1ſt of April, by giving the animal hay mixed with a little ſalt, it was induced to drink, at two different times in the courſe of two hours, three gallons of water; not having taking any the three preceding days, or ſhewn the leaſt diſpoſition to do ſo. Three hours after this, its head was fixed to a beam, ſo as to prevent the body from falling to the ground after it was dead, and in this ſituation it was pithed by Mr. Cline, junior, aſſiſted by Mr. Brodie and Mr. Clift. This operation was performed with a narrow double-edged poniard paſſed in between the ſkull and firſt vertebra of the neck: in this way the medulla oblongata was divided, and the animal inſtantaneouſly deprived of ſenſibility. In the common mode of pithing cattle the medul-

ta ſpinalis only is cut through, and the head remains alive, which renders it the moſt cruel mode of killing animals that could be invented.

The animal was kept ſuſpended, that the viſcera might remain in their natural ſtate, and in two hours the cavities of the cheſt and abdomen were laid open, in the preſence of all the members of the committee, and Mr. Chandler, a member of the Board of Curators.

From the comparative view here taken of the ſtomachs of the bullock and camel, it appears that in the bullock there are three ſtomachs formed for the preparation of the food, and one for its digeſtion. In the camel there is one ſtomach fitted to anſwer the purpoſes of two of the bullock; a ſecond employed as a reſervoir for water, having nothing to do with the preparation of the food; a third ſo ſmall and ſimple in its ſtructure, that it is not eaſy to aſcertain its particular office. It cannot be compared to any of the preparatory ſtomachs of the bullock, as all of them have a cuticular lining, which this has not; we muſt therefore conſider it as a cavity peculiar to ruminants without horns; and a fourth, or true digeſting ſtomach.

"It is ſtated by authors that hares, rabbits, and even ſome men, ruminate; their doing ſo is not material to the preſent inquiry, ſince their ſtomachs, are not of that kind which makes rumination a neceſſary part of the proceſs of digeſtion; and as far as I can learn from ſome perſons who feed rabbits and fatten them with meal, although they have watched their rabbits with attention, they never ſaw them bring up the food into the mouth. It may therefore be only occaſional when they eat particular kinds of vegetables. They have indeed a mode of working their lips when ſitting quiet, which may have been miſtaken for rumination. When it takes place in men it muſt be conſidered as a diſeaſe.

" From the facts which have been ſtated, the following gradation of ruminating ſtomachs is eſtabliſhed.

" The ruminants with horns, as the bullock, ſheep, &c. have two preparatory ſtomachs for the food previous to rumination, and one for the food to be received in after rumination before it is digeſted.

" The ruminants without horns, as the camel, dromedary, and lama, have one preparatory ſtomach before rumination, and, properly ſpeaking, none in which the cud can be afterwards retained before it goes into the digeſting ſtomach.

" Thoſe animals who eat the ſame kind of food with the ruminants, yet do not ruminate, as the horſe and aſs, have only one ſtomach; but a portion of it is lined with cuticle, in which ſituation the food is firſt depoſited, and by remaining there ſome time is rendered afterwards more eaſily digeſtible when received into the other, or digeſting portion.

" In comparing the teeth of thoſe animals that ruminate, with thoſe of the horſe and aſs, which live on nearly the ſame kind of food, the following peculiarities are met with.

" The ruminants with horns have molares in both jaws, and inciſores only in the lower jaw.

" The ruminants without horns have, in addition to theſe, what may be called fighting teeth, or a ſubſtitute for horns. Theſe are tuſks in both jaws, intermediate teeth between the molares and tuſks, and in the upper jaw two ſmall teeth anterior to the tuſks; none of which can be of any uſe in eating.

" The camelo-pardalis forms an intermediate link in theſe reſpects. It has ſhort horns, and has no tuſks.

"The molares in both theſe genera of ruminants are open in the ſtructure of their crown, which is not horizontal but oblique; the outer edge in the upper jaw and the inner in the lower jaw being the moſt prominent, ſo as to adapt them to each other. The lower jaw has leſs width than the upper, ſo that the lower molares fall conſiderably within the upper: when the animal eats, it can only maſticate with one ſide of the mouth at a time, by bringing the lower jaw to that ſide, ſo as to make the teeth of both jaws oppoſe each other: the teeth of that ſide are applied to the food three or four times, and then thoſe of the oppoſite ſide.

"This mode of maſtication appears to be peculiar to the ruminants, and is certainly very different, and much more imperfect, than the maſtication of the horſe, whoſe molares are very compact in the texture of their crowns, and are oppoſed directly to each other by horizontal planes."

The urine of the camel was found to contain, in 100 parts, Phoſphate of lime, 3—Muriate of lime and of ammonia, 15—Sulphate of potaſh, 6—Carbonate of potaſh and of ammonia, 4—Urea, 4—Water, 65. It is remarkable that the uric acid ſhould be found in the camel's urine, as it is the firſt inſtance on record, as far as relates to the urine of graminivorous animals.

It appeared from other experiments, that potaſh is the only fixed alkali preſent in the urine of the camel, cow, guinea-pig, and rabbit. In this reſpect, the urine of the horſe is peculiarly diſtinguiſhed from that of thoſe animals, as it is found to contain abundance of ſoda. The urine of both the horſe and the aſs changes vegetable blues to green, but is deſtitute of ammonia. *Med. and Chir. Rev.*

*A Caſe of Inflammation extending through the Circulating Syſtem.**

'Sarah Andrews, a luſty young woman, about twenty-three years of age, who was very ſubject to hyſteric fits, had juſt recovered from a ſlight fever; when, without any external cauſe, that was apparent, ſhe was attacked with pain which extended all over her body, and gradually increaſed to a great degree of violence. It was attended with a hot dry ſkin, great proſtration of ſtrength and ſpirits, and an inattention to external objects. She laid moaning and crying out with pain, and very unwillingly anſwered any queſtions that were put to her, but her anſwers were perfectly rational.

'Her pulſe was a very peculiar one: I never felt ſuch a pulſe before nor ſince. I hardly know how to deſcribe it: it was extremely hard, quick, unequal, and irregular, having at the ſame time a pecular tremulus. On applying my hand to the region of the heart, I found its action exactly correſpond to the pulſe. I took away ſixteen ounces of blood in different cups. The firſt portions gave a very thick buff upon the coagulum, which was very firm and cupped. The pulſe was lowered and became ſofter, and the patient faint, but the peculiar tremulus continued.

'This woman was a patient to my friend Mr. Slater, of Margate; a week paſſed before I had an opportunity of ſeeing her again. At this time the univerſal pain had greatly abated, the patient was extremely low, the extremities, both hands and feet, were cold and œdematous. The pulſe was very low, but ſtill it retained the ſame irregular trembling action, and ſo did the heart. Her reſpiration was quick and ſhort; an horizontal poſture was extremely diſagreeable to her, although it did not, as ſhe ſaid, increaſe the difficulty of her reſpirations. From

* Weldon's caſes and obſervations in Surgery.

this time ſhe gradually ſunk, the œdema became general, and ſhe died in about three weeks.

'On diſſection I found all the viſcera of the thorax and abdomen in a healthy ſtate, no adheſion of the lungs to the pleura, no fluid in the cavities of the pleura, nor of the abdomen, and very little in the cavity of the pericardium. The heart had undergone no change in its ſtructure, nor yet its valves. But the internal ſurface of both ventricles and auricles of the heart was of a florid red colour, evidently produced by inflammation, with ſmall irregular patches of coagulating lymph adhering to it.

'In the aorta theſe appearances were more remarkable, from being contraſted with its natural colour. The ſmall veſſels on its inner ſurface were ſo completely injected with red blood, from preceding inflammation, as to give the whole ſurface an uniformly florid red colour: ſmall patches of coagulating lymph had been thrown out by the vaſa vaſorum, and were adhering to the ſurface in the form of a thin delicate membrane, as in the heart.

'I examined one of the carotids, the internal and external iliacs, the popliteal artery, and one of the axillary arteries: they were all in the ſame inflamed ſtate. The inner ſurface of the pulmonary arteries and veins, of the vena cava, of the axillary and popliteal veins alſo, were inflamed, although in a leſs degree; but there was no effuſion of coagulating lymph adhering to them. The head was not opened.

'The body had no appearance of wound in any part of it. The wound, from bleeding, had healed in a few days.'

Med. and Chir. Rev.

With a view to aſcertain whether the quality of the *anguſtura bark* ſold in the ſhops of this town could be detected by the reſpective teſts here cited, I procured a ſpecimen of the drug from three different druggiſts reſiding in this place. A ſeparate decoction was made of the ſeveral parcels, and I regret to add, that each of them clearly denoted what is affirmed to be the diſtinguiſhing characters of the *ſpurious* and *poiſonous* ſort of the drug. To pieces of linen cloth infuſed in each decoction, was imparted a duſky hue, in which the yellow colour, ſaid to be characteriſtic of the true ſpecies, was ſcarcely perceptible; each decoction was alſo both turbid and deeply blackened by the admixture of a ſolution of iron.

If theſe are unequivocal teſts of the noxious kind of *anguſtura bark*, it ſurely becomes incumbent on the college of phyſicians, or on ſome other adequate authority, immediately to inſtitute ſuch an inveſtigation of the ſubject as may hereafter exempt mankind from the deleterious effects of a *ſpurious* drug, which, in the full confidence of its being *genuine*, is very commonly directed as a mild and ſalutary tonic.

The inquiry, indeed, appears to be additionally neceſſary, in as far as *anguſtura bark* is uſually reſorted to in caſes of chronic weakneſs, from various cauſes, and more particularly in the convaleſcent periods of febrile affection. When exhibited under theſe circumſtances, it is difficult correctly to mark its effects. The ſymptoms of the diſeaſe it is then directed to remedy, ſo much reſemble thoſe of its own hurtful operation, that any aggravation of complaint occurring during its employ, would be naturally imputed rather to an unfavourable courſe of the diſorder, than to any conceivable injury from the medicine. Under this ambiguity of effect, therefore, it is not extraordinary that the injurious agency of a ſpurious ſort of *anguſtura bark* ſhould have eſcaped general notice.

Further reſearch into the ſubject will probably furniſh additional criteria by which the true ſort of *anguſtura bark* may

be diſtinguiſhed from that which is ſpurious with more promptneſs and certainty than can at preſent be done. It muſt be allowed to be an object of no ſmall concern to the public welfare, to have a drug like *anguſtura bark*, high in both medical and popular eſtimation, liable to be *counterfeited* by an article, ſaid to "operate as a poiſon," and which, in the ſeveral inſtances here adduced, did actually produce effects truly alarming.

I am, &c.

ROBERT KINGLAKE.

Taunton, February 13th, 1807.

Tape Worm.

The Ruſſian Archiater, *Von Beck*, has publiſhed the following as a remedy for the tape-worm: ℞. *merc. dulc.* ℈j—*corn. cerv. uſt—cinnabar. antimon.* ana gr. x. m.—This is to be taken at 4 o'clock in the afternoon, and at ſupper ſome broth, with 2 oz. of oil of almonds. Two hours after, it is ſaid, the tape-worm comes away: but in caſe this ſhould not happen, a draſtic purgative is given the following morning, and repeated, after two hours, if the whole worm ſhould not be brought away. This purgative conſiſts of a ſcruple of jalap and an equal quantity of the leaves of the *filix mas*, with ten grains of gamboge. *Med. and Chir. Rev.*

New Diſcoveries in Galvo-Electricity.

1. About fifteen years ago, Meſſrs. *Van Trooſtwyk*, *Dieman*, and others in Holland, produced gas by paſſing the electric

ſpark through water in tubes ſealed at one end; which gas was concluded to be the conſtituents of water, viz. hydrogen and oxygen gas—becauſe, in paſſing the electric ſpark through it, between two metallic points, over water, it again diſappeared. In this country, no one could ſucceed, on repeating this experiment, till Mr. Cuthbertſon arrived from Holland, where he had reſided many years, and had performed many experiments with his own capital inſtruments, in the *Teylerian Muſeum;* and particularly the curious experiment, in which water was ſuppoſed to be both decompoſed and re-compoſed by electricity.

2. About the year 1794, Dr. Pearſon's paper was publiſhed in the *Philoſophical Tranſactions*, containing experiments, in which he ſhowed how the experiment of the Dutch chemiſts was to be performed, and demonſtrated that the gas above-mentioned was really a mixture of hydrogen and oxygen, as had been before ſuppoſed; for he collected it, ſo as produce the exploſion over mercury; thereby manifeſting the production of water by compoſition. But it was ſuppoſed that powerful electrical machines were requiſite for effecting the decompoſition of water by the electrical ſpark.

3. Dr. Wollaſton, however, ſhewed that ſuch powerful machines were not neceſſary, provided the wires, over which the electrical fluid paſſed, were of ſufficient tenuity; in which caſe almoſt a pocket-machine would anſwer the purpoſe.

4. A new kind of electrical apparatus was invented by *Volta*, viz. by the alternate diſpoſition of plates of two kinds of metal, with water and ſaline matter interpoſed. This contrivance is well known at preſent by the name of the *Voltaic Pile*. With this new inſtrument, the recently-diſcovered galvanic or galvo-electric fluid was extricated, and many wonderfully curious experiments were executed by different philoſophers, both in this country and abroad. It was obſerved

to be extricated by other heterogeneous ſubſtances applied to one another, beſides metals, and manifeſted itſelf by the moſt delicate teſts, viz. living parts of animals, and even, as was ſaid, the blood itſelf, and living vegetable matter. From theſe experiments, it was concluded that either a peculiar ſtate of the electric fluid, or a newly-diſcovered fluid analogous to the electric, was perpetually paſſing from one body to another when in contact, owing to its being in unequal quantities in them, or in order to reſtore an equilibrium; being, as it is termed, in the poſitive or *plus* ſtate in one, and in the negative or *minus* ſtate in the other.

5. Mr. Carliſle and Mr. Nicholſon diſcovered that, during the extrication of the galvo-electric fluid by the pile of Volta or trough of Cruickſhank, water was decompounded when a wire of one metal communicated with one extremity of a given metal, and another wire with the other extremity of another given metal: but the moſt curious part of the proceſs was, that the hydrogen gas was always extricated at the ſilver end, and the oxygen at the zinc end. Hence theſe were called the two poles: the ſilver, for example, was the *negative*, and the zinc the *poſitive* pole. This property is altogether inexplicable on the principles of common electricity; and ſeems alone to eſtabliſh galvaniſm as quite a different ſpecies from electricity.

It became now a queſtion,—whether galvaniſm was the effect of the oxidation of metals, or merely manifeſted itſelf in paſſing from one to the other; and that, in ſo doing, if water was in its way, a decompoſition was effected; and if an oxidable metal, as zinc, was preſent, the oxygen united to it, and the hydrogen was diſengaged at the oppoſite extremity by the other metal.

6. In operating upon water with galvo-electricity, Mr. Peele* of Cambridge announced, that he could procure ſoda, lime, muriatic, acid &c. from water purified by diſtillation; and Pacchioni, in Italy, reported, that he could produce, by the ſame agent, muriatic acid from pure water, by diſoxygenation. Theſe aſſerted facts were contradicted by the experiments of ſome, and obtained no credit with others. The queſtionable authority of Peele was indeed ſuch, that many conſidered his experiments to be mere forgeries; and the editor of the journal who publiſhed them was looked upon as having been a dupe to his credulity. Pacchioni's experiments, in the mean time, received ſupport from ſome chemiſts, although diſcredited by others.

7. Mr. Davis ſeems at once to have unravelled the myſtery of the pretended Mr. Peele's experiments, and confirmed thoſe of Pacchioni. At the Bakerian Lecture of the Royal Society, three months ago, Mr. Davy demonſtrated, by a ſet of moſt ingenious experiments, the agencies of galvo-electricity on bodies chemically united. He ſhewed its power in diſuniting them, ſo as to manifeſt new ſubſtances where leaſt of all ſuſpected; and in decompounding certain compound bodies known to be preſeut, ſuch as double ſalts with earthy, metallic, and alkaline baſes. When ſuch ſubſtances are decompounded in a *Voltaic Circuit*, in water, the acids arrange themſelves around the *poſitively*-galvo electrified metallic point, and the baſes around the *negative* point. In this way, even inſoluble bodies are decompounded; as, various ſtones and minerals. What is moſt wonderful, acids and alkalies, by the attractive and repulſive agencies of the galvanic fluid, are carried through and out of menſtrua for which they have the ſtrongeſt chemical attraction, and through both animal and vegetable ſubſtances.

* We believe this to be an aſſumed name, and that the real author is unknown to this day. *Eng. Ed.*

Mr. Davy accounts for the ſeparation of acids from alkalies, earths, &c. by ſuppoſing electricity to exiſt in oppoſite ſtates in acids and alkalies, as well as in zinc and copper. Thus negative and poſitive galvo-electric energies are exerted, and bodies naturally *negative* are repelled by negative electricity, and bodies naturally *poſitive* are attracted by negatively electrified points. Finding that chemical attraction is deſtroyed, increaſed, and diminiſhed, according to the galvo-electrical ſtates of bodies; and as all bodies whieh unite chemically ſeem to be in oppoſite ſtates of electrical energy, the queſtion is propoſed,—Whether chemical unions and diſunions are not occaſioned by the varying ſtates of theſe energies; or whether chemical attraction is not the ſame thing as electrical energy?

As acid and alkali, lime, &c. were got by the *Voltaic Circuit* from water ſuppoſed to be pure by diſtillation, Mr. Davy imagines that they might proceed from the decompoſition of ſubſtances in the water between the plates of the pile, and be tranſported in the circuit: alſo, that water is not rendered perfectly pure by diſtillation. In ſhort, according to theſe experiments, the attracting and repelling agencies of galvo-electricity act not only upon water, as diſcovered in the firſt inſtance, but upon all other bodies in nature.

Hence two highly important principles ſeem to be diſcovered, viz.

1. A theoretical one,—that chemical attraction depends upon galvo-electricity.

2. A practical concluſion, which is, a new power of analyſation.

Theſe experiments of Mr. Davy, and the late work of Chemical Statics by Berthollet, probably exhauſt the ſubject of

chemical attraction, firſt propoſed by Sir Iſaac Newton, and afterwards ſo ſucceſsfully cultivated by Boerhaave, Stahl, Freind, but above all by Cullen.

It will now remain for phyſiologiſts to diſcern the agencies of the galvo-electrical fluid on living matter;—an entirely new field of obſervation, if we accept the little already done by *Galvani*, *Valli*, *Volta*, and *Aldini*. *Med. and Chir. Rev.*

On the Compoſition of the Muriatic Acid.

The experiment of M. *Pacchioni* relative to the compoſition of the muriatic acid and ſoda by the action of the galvanic pile, has been unſucceſsfully tried in this country and in France; nevertheleſs M. *Buch* obſerves that the experiment always ſucceeds when made in the following manner.

Erect two galvanic piles near together, and connected with one another at the bottom, in ſuch a manner that the two poles, the one *poſitive*, and the other *negative*, ſhall be at the ſuperior extremities of the two piles. Conduct a gold or platina wire from the negative pole (zinc) into a tube (A) lightly cloſed at top by a cork or piece of linen, which the wire traverſes, deſcending about two-thirds of the tube. Another wire of the ſame ſubſtance is to be carried from the poſitive pole (copper) into another tube (B) ſimilarly diſpoſed. Both tubes are then to be plunged in a glaſs tumbler containing diſtilled water. Oxygen then is found to be diſengaged in the tube B, and hydrogen in the tube A. After a few hours, unequivocal marks of the exiſtence of the muriatic acid takes place in the tube B, and of ſoda in the tube A. In the ſpace of ten or twelve hours, the nitrate of ſilver, being dropped into the water, becomes precipitated in abundance. If

the water of the two tubes is mixed together and evaporated, there is obtained a notable quantity of muriate of ſoda. If the experiment is made in the dark, the acid found in the tube B is oxygenated, as is eaſily aſcertained by its peculiar odour and colour. This oxygenated acid ſoon attacks the gold wire, and the *powder of Caſſius* is obtained on evaporation.—The diſcovery of the formation of ſoda is due to *Maſcagni* of Sienna.

Extract of a letter from Mr. W. H. PEPYS, *junior, of London, to Dr.* JAMES WOODHOUSE, *Profeſſor of Chemiſtry in the Univerſity of Pennſylvania.*

We have been extremely intereſted lately, with ſome galvanic experiments, made by Mr. Humphrey Davy.

The negative or the poſitive ends of the trough of Cruickſhank, have the power of completely decompoſing all chemical compounds, ſolid or fluid.

The method of making thoſe on ſolids, is by drilling two holes, in two pieces of ſulphate of lime or plaiſter of Paris. For inſtance, they are placed upright, filled with diſtilled water, and the poſitive gold wire is put in one, and the negative gold wire in the other: a ſyphon or communication is then made between the two, by a piece of fibrous gypſum or aſbeſtos.

In a few minutes by the teſt papers, an acid is found in one, and an alkali in the other. The experiment being continued, gives ſulphuric acid in one, and a ſolution of lime in the other. The acids arranging themſelves on the poſitive ſide, while the alkalies and metallic oxides go to the negative.

Metallic wire not oxidable, and pure diſtilled water ſhould be uſed, to have the effect.

Some of the decompoſitions are attended with deflagrations, as the concentrated nitrate of ammoniac. Gold cones or cups, containing about eight or ten drops of ſolutions, with an aſbeſtos ſyphon, are extremely uſeful for theſe experiments.

The following intereſting Galvanic Experiments, were made by Dr. JAMES WOODHOUSE, *Profeſſor of Chemiſtry in the Univerſity of Pennſylvania.*

The doctor having placed a quantity of mercury in a plate, covered it to the depth of an inch, with diſtilled water. He then introduced an iron wire, connected with the copper pole, of an apparatus, formed of ſixty plates of copper and zinc, four inches ſquare, into the mercury, and immerſed the other wire, applied to the zinc pole, into the water, ſo as to bring it as nearly as poſſible in contact with the mercury, without touching it.

Immediately a conſtant ſtream of vivid and intenſe light, iſſued from the end of the wire, which could be kept up any length of time.

It was accompanied with a hiſſing noiſe, and an oxidation of the iron.

The light was produced from wires of platina, gold, ſilver, copper, zinc and tin, and from the zinc and copper poles, and was viſible in ſpermaceti oil, oil of turpentine, ſpirit of wine,

ſulphuric acid, carbonic acid gas, azotic air, nitrous gas and pure inflammable air, when placed over mercury.

It was not greater in oxygen air, than in carbonic acid gas, and was of the colour of the electric light.

When a piece of fine iron wire, half an inch in length, was laid upon the mercury, covered with water, and the copper pole wire was immerſed in the mercury, and the zinc pole wire was introduced into the water over the wire, it was repelled with great velocity, and the whole of the mercury was violently agitated, and when any light ſubſtances, were found ſwimming on its ſurface, they were diſperſed in all directions.

By means of gold wires, placed in a ſolution of pure cauſtic potaſh, or of the pearl aſh of the ſhops, the Doctor obtained five cubic inches of oxygen and hydrogen gas, of a high degree of purity, in fifteen minutes; whereas pump water, tried under the ſame circumſtances, for the ſame time, yielded but a fourth of a cubic inch of theſe airs, contaminated with forty per cent. azotic gas.

The agent Dr. Woodhouſe uſes, to excite the galvanic influence, which has never been tried in Europe, is a ſolution of the ſulphate of copper or blue vitriol. It acts in the ſame manner as the nitric or ſulphuric acids, by giving oxygen to the zinc, but is preferable to them, as it does not produce either nitrous air or hydrogen gas.

He conſiders the galvanic influence, as depending altogether upon oxygen, without which it cannot be produced.

On the Uſe of Tannin in Medicine.

M. *Pezzoni*, a phyſician reſiding at Conſtantinople, obſerves in a letter to M. *Careno*, that he has found the ſubſtance called *Tannin* to be productive of the greateſt ſervice in a variety of complaints depending on relaxation and debility, and to be ſuperior in this reſpect to the Peruvian bark itſelf. He has employed it both internally and externally, and aſcribes the good effects to its chemical properties, and its peculiar affinity with animal matters. He has always adminiſtered it internally in the form of pills, ſometimes alone, ſometimes in combination with other ſubſtances, as opium, camphor, muſk, digitalis, iron, emetic tartar, &c. according to the particular circumſtances of the caſe. The greateſt quantity he has yet ventured to give is from eighty to a hundred grains, in divided doſes, in the ſpace of twenty-four hours. He applies it externally in caſes of gangrene, diſſolved in alkohol, and ſometimes in ſimple water. *Med. and Chir. Rev.*

Proceſs for ſeparating Quickſilver from Animal Fat.

The volatility of mercury makes it riſe in diſtillation with animal fat, with which it has been intimately blended; and when the mixture undergoes combuſtion, the mercury is diſſipated in vapour: it is difficult, therefore, to obtain the mercury from this compoſition, or to aſcertain the exact ſtate in which it enters into combination with the lard. M. *Mathieu*, profeſſor of phyſic and philoſophy, was enabled to ſucceed in this point, by diſſolving the lard in a boiling ſolution of potaſh; when the mercury was precipitated in the form of a greyiſh paſte. This matter being waſhed and thrown on a filtering paper, was quickly reduced to its metallic ſtate by

mere friction. In this way, M. *Mathieu* recovered the whole of the mercury contained in the ointment.

As mercury produces its ſpecific effects more powerfully, when in combination with animal fat; and as in this form it is but little removed from the metallic ſtate, M. *Mathieu* conceives that the acids with which it is uſually combined add nothing to its virtues, but that it really acts in the metallic form: the combination with fatty matters, he thinks, only anſwers the purpoſe of applying it more eaſily, and in a ſtate of extreme diviſion: finally, that it is *reduced* by the friction employed in its application, and enters the ſyſtem in its metallic form, and not in the ſtate of an oxide, as commonly ſuppoſed.

Med. and Chir. Review.

Of the Nature of the Air derivable from Water.

Water contains air, as air contains water. *Humboldt* and *Gay-Luſſac* found, that the air expelled from water by boiling, contains more oxygen than atmoſpheric air, but that the quantity varies at different periods of the proceſs.

Water, on being heated, gave out at firſt air which contained of oxygen 23 per cent.
At a ſhort period afterwards - 27
At a third period - - - 30
And at the moment of ebullition - 32

The air furniſhed by ſnow contains as much as 34 per cent of oxygen. *Med. and Chir. Rev.*

On the Abſorption of Azote in the Reſpiratiou of Vegetables.

Vegetables, as well as animals, abſorb azote in the act of inſpiration, and exhale it in reſpiration, as appears from the following experiment.

One hundred parts of the air expired by plants, mixed with three hundred parts of nitrous gas, left a reſidue of from one hundred and ten to one hundred and twenty; which proves that the expired air contained a large quantity of pure air or oxygen, together with a ſmall portion of azote. This azote combines itſelf equally with, and enters into the compoſition of, the gluten and other products of vegetables which contain a large quantity of azote.

Med. and Chir. Rev.

On the Virtues of Oxygenated Water.

M. *Odier*, of Geneva, obſerves, that he has been long in the habit of preſcribing this water with good effect in caſes of hyſteric ſpaſms and cramps, particularly of the ſtomach and inteſtines. He has found it equally ſerviceable in affections of the cheſt, that were of an aſthmatic, rather than a phthiſical nature. It is alſo uſeful, he ſays, as a tonic, in caſes of debility following fevers, and as a diuretic in anaſarca and other ſpecies of dropſy.

The oxygenated water has neither taſte nor ſmell; the oxygen is not combined with it by the intermedium of any baſe, but ſimply by the force of compreſſion: hence it is neceſſary to ſwallow it quickly when poured out of the bottle, and to keep it very cloſely corked. Water can be made to abſorb in this way about half its bulk of oxygen gas. M. Odier

remarks, that, when the oxygenated water produces dyſenteric ſymptoms, this effect may be removed by water ſimilarly impregnated with hydrogen. *Med. and Chir. Rev.*

On Tinned Utenſils for Domeſtic Purpoſes.

A great deal of prejudice exiſts with regard to the adulteration of tin coatings, to copper veſſels, by the admixture of more or leſs of lead with the tin, from motives of cheapneſs. A number of experiments have been lately made by the celebrated Spaniſh chemiſt M. *Prouſt*, which ſhew that there is little or no foundation for the fears which are commonly entertained on the ſubject. Theſe experiments lead to the following concluſions.

1. Confectioners may continue to uſe untinned copper veſſels, provided they adhere ſtrictly to the rules of their art with regard to cleanlineſs.

2. Every meaſure which tends to oblige them to employ tinned veſſels will turn out to be illuſory; as the heat neceſſary for the greater part of their compoſitions deſtroys the tinning in a few days. M. Prouſt cauſed different ſweetmeats to be prepared under his own eye, in veſſels coated with fine tin; but the workman could not ſucceed. Some of the preparations were burnt: the tin was detached by the wooden ſpatula employed in ſtirring the mixture, and the copper laid bare.

3. The tinning that is adulterated with equal parts of lead is not attended with any danger, as lead alloyed with tin is neither ſoluble in lemon juice nor in vinegar,—the two acids

the activity of which is moſt to be feared: the tin, in this caſe, being more oxydable than lead, becomes diſſolved excluſively in theſe acids, and prevents the latter from being attacked; while the lead cannot appropriate to itſelf an atom of oxygen, without being deprived of it at the ſame inſtant by the tin.

4. Lead, alloyed with equal parts of tin, never becomes oxydated and diſſolved before the latter. The ſame alloy taken internally, and in a much larger doſe than could be ſwallowed by a whole family in any caſe, even ſuppoſing that all the tinned veſſels in the houſe ſhould not laſt for eight days, is not of the leaſt detriment to the health. No diſadvantage, therefore, can ariſe from the uſual practice of workmen in alloying their tin with one third, or a quarter, of lead. And the ſame is true of cups and other veſſels made chiefly of tin or pewter, in which there may be a mixture of lead.

In conſequence of this report, made to government by M. Prouſt, two commiſſioners were appointed to inquire whether acid liquors kept, for a longer or ſhorter time, in tin veſſels with the uſual alloy of lead, really became impregnated with any portion of the latter, ſo as to threaten to be injurious to health. They choſe for the purpoſe, out of more than a hundred veſſels that had been ſeized and condemned by the police, ſuch as appeared to have the largeſt quantity of lead in their compoſition, and which were the moſt corroded by moiſture. They ſuffered acid liquors of all kinds to remain in them for four days together, and then examined the liquors with the greateſt precaution. The reſult of their experiments was, that neither vinegar, verjuice, oranges, cherries, gooſeberries, ſour milk, &c. became impregnated with any particle of lead, diſcoverable by the teſts of ſulphate of potaſh, hydro-ſulphuretted water, liver of ſulphur, or any

other teſt; but moſt of them took up a ſmall portion of tin. The conſequence of theſe trials was, that the ſeized veſſels were reſtored to their owners. *Med. and Chir. Rev.*

Obſervations on the Elephantiaſis.*

"*Chap.* 18 is a paper on the *Arabian* leproſy, or Elephantiaſis of the ancients,—the elephantiaſis of the moderns, or the *Barbadoes leg*,—and the *Lepra Grecorum*. It was drawn up, we are informed, during the author's reſidence in the iſland of Madeira, and was intended as a ſupplement to Dr. Thomas Heberden's communication on the ſame ſubject, publiſhed in the *medical tranſactions* of the London college. It is particularly valuable, in pointing out the diſtinction between diſeaſes that have ſome ſymptoms in common, but which have been confuſed by having the ſame name given to them.

The Arabian leproſy, or elephantiaſis of the ancients (the diſeaſe here particularly deſcribed,) is principally characterized by the following ſymptoms: tubercles ariſe about the face, particularly on the external ear, *alæ naſi*, eye-brows or forehead; theſe tubercles are of a higher colour than the ſound ſkin, and are for ſome time ſmooth and gloſſy. After a time, they crack, and become covered with a white furfuraceous ſubſtance. As the diſeaſe advances, the features become horridly diſtorted; whence probably the epithets *ſatyriaſis* and *leontiaſis*, applied by writers to theſe wretched objects. The inſide of the mouth is alſo rendered irregular and thickened, and the bones of the noſe ſometimes give way. Similar tubercles, though leſs elevated, are obſerved on the limbs, and alſo occaſionally on the body, though to a leſs extent. The legs are in moſt caſes covered with the furfuraceous ſubſtance,

* Adams' obſervations on morbid poiſons.

or with foul but ſuperficial ulcers. In the upper and anterior part of the thigh there is, in almoſt every caſe, a firm glandular-like ſwelling, indolent, and without any diſpoſition to ſuppurate. The feet are often ſo affected with foul ulcer that the toes drop off, one after another. The fingers are ſometimes ſo contracted as to loſe all power of motion. In a few inſtances there is a loſs of ſight. It appears that the diſeaſe is hereditary, or rather the diſpoſition to it; but the children of leprous parents are by no means neceſſarily affected with the diſeaſe: and in many it appears to ariſe ſpontaneouſly without ſuch an origin. It is a curious circumſtauce attending it, that thoſe who are attacked before the age of puberty, never arrive at that ſtate, and that, generally ſpeaking, others loſe the diſpoſition to procreation: the beard falls off, and the organs of generation waſte.—Correſponding circumſtances occur in the female. There ſeems no reaſon to ſuppoſe the diſeaſe to be infectious; and it is believed to be incurable. Yet though the perſons affected rarely arrive at old age, they, for the moſt part, ſeem to die of other complaints."

Med. and Chir. Rev.

*Of the Itch Inſect.**

"*Chap.* 19 contains 'An account of the *Acarus Firo (exulcerans* of Linnæus), by ſome conſidered as the itch inſect," read before the Royal Society, April 1805.—It has been much diſputed among naturaliſts and phyſicians, whether or not the itch depended on the preſence of animalculæ; and even many of thoſe who have admitted the exiſtence of animalculæ, have denied that they were the cauſe of the diſeaſe, and ſuppoſed that the veſicles merely formed a convenient nidus for their ova. From the account given by Dr. Adams in the paper be-

* From the ſame.

fore us, it ſeems probable that two very diſtinct affections have been confounded together, one of which really depends upon the preſence of animalculæ, while the other (the common itch) is of a different origin.

The former is frequently met with in Madeira, and the name given to it is ouçao or ouçam, the laſt ſyllable being pronounced like the French naſal terminations. When the diſeaſe reaches the head, ſo as to produce a general ſcabbineſs, it is called zagra. This affection evidently depends upon an exceedingly minute inſect, not unlike the *acarus farinæ*, but conſiderably ſmaller. It occaſions ſmall veſicles reſembling thoſe of the itch, with which it is eaſily confounded. It differs however from the itch, in having extended from the veſicle a ſlender red line, about a quarter of an inch in length, at the extremity of which uſually the inſect is found, under a reddiſh elevation (the inſect is never found in the veſicle itſelf). It differs from the itch, alſo, in being attended with conſiderable general irritation or fever. It appears to be curable by the uſual remedies for the itch, viz. ſulphur and the mercurial applications; but with more facility than the itch, though it is ready to return if the remedy is not occaſionally reſorted to for near a month, during which it is probable that young inſects are evolved from their eggs, or arrive at ſuch a ſtate of exiſtence as to propagate.

The author, and his friend Mr. Banger, were curious enough to get themſelves *infected* with the ouçao, in the month of July, by the help of an old woman, who diſplayed much diſcernment and dexterity in detecting the inſect, and applying it to the ſkin between the fingers. "For more than three weeks," ſays the author, "no inconvenience was felt. From that time began frequent itching in different parts of the body and arms; but no eruption could be diſcovered. In leſs than a fortnight afterwards, my arms and belly were covered with a general efflorescence, yet but few veſicles appeared. I ap-

plied to my old woman, who readily drew two ouçöes from my arm, but not from the veſicles; indeed on this, and on all other occaſions, I could not help remarking that though I could not diſcover what the marks were by which ſhe was directed, yet ſhe conſtantly paſſed over the veſicles, without ſuſpecting them to be the nidus of the inſect. At length I perceived it was a ſmall ſlightly-diſcoloured elevation of the cuticle, which appeared as if ſoon likely to become veſicular, that the woman always attacked, but not always with ſucceſs. However, ſhe always conſtantly anſwered to our inquiries, that where the bladder was formed, the ouçao had left the ſpot.

"No remedies being uſed, nor any alteration in diet or my uſual habits, the weather alſo being warmer than common, even for this ſeaſon of the year, the diſeaſe continued to ſpread rapidly, ſo that, by the end of Auguſt, my whole body, arms, and thighs, were covered with the efflorescence. As, however, the veſicles were few, I was willing to believe the eruption might be the prickly heat. On this ſubject I applied to my old woman, who confirmed my ſuſpicions: but there is reaſon to fear I was not ſufficiently cautious in leaving my teacher to form her own opinion before ſhe had diſcovered mine. In the mean time my health ſuffered exceedingly, not only from the inconvenience produced by the itching; but about noon a quotidian fever began, with a ſlight ſhivering, and was ſucceeded by headach, dry heat, great thirſt, loſs of appetite, and conſiderable exacerbation of the itching. The conſequent perſpiration was not greater than what the ſeaſon might have produced.

"So little was I prepared to expect ſuch effects to ariſe from ſuch cauſes, or ſo determined to aſcertain the cauſe, that, to allay the itching, I uſed an ointment of pomatum and ſaccharum ſaturni, from which ſome relief ſeemed to follow. It was, however, for a ſhort time, and, the paroxyſm of fever

being as regular though much ſlighter than in common ague, I had recourſe to the bark. If this produced relief, it was very temporary.

"By the middle of October the efflorescence was univerſal over my abdomen, and very general over my arms, breaſt, and thighs. My hands were only ſlightly affected, but ſufficiently to be detected by the natives. The character was, indeed, here more ſtrongly marked, for the white ſhining cuticular elevations were ſuch as I ſhould not, in England, have ſcrupled to call the itch.

"About this time one of my family became ſlightly infected with the eruption, but her fever was very conſiderable. It ſeemed therefore reaſonable to attribute all my own ſymptoms to ouçöes, or at leaſt it was time to try whether by ridding the ſkin of them the other ſymptoms would ceaſe. The ointment I had invariably found ſucceſsful in all other caſes was compoſed of a drachm of white precipitate of mercury and an ounce of ſoft pomatum. The effect of this on us both was almoſt incredible. In three days time the itching nearly ceaſed, and the fever entirely. However, it was found neceſſary to have recourſe to the ointment occaſionally for near a month afterwards: little cuticular elevations and ſome veſicles aroſe at different times during that period; and, when they aroſe, were conſtantly attended with ſymptoms of fever. From that time we felt no further occaſion for any remedies." —The inſect, it ſeems, has a power of leaping equal to that of a flea; which accounts for the quick ſpreading of the diſorder. *Med. and Chir. Rev.*

Cow-pox, ſuppoſed variety of Small-pox.*

'The author expreſſes his conviction that the cow-pox is in reality a variety of ſmall-pox. This opinion is ſupported by the following train of reaſoning, with which we ſhall terminate our analyſis of this valuable work.

"I ſhould conceive it loſt time to offer even a ſummary of the arguments adduced to prove that cow-pox is a ſecurity againſt ſmall-pox. There is, in my opinion, no medical fact that ſtands on a ſecurer foundation. The very exceptions which have been made are ſo few, as to eſtabliſh the law. In all inquiries we are to conſider the credibility of witneſſes. On the ſide of cow-pox they are not only the moſt numerous, but include thoſe names to which the public looks up with the greateſt confidence. On the other ſide, there are certainly reſpectable names, but their number is comparatively ſmall. The publications, however, on the ſubject are ſo numerous, and have been ſo lately digeſted by Dr. Willan, that I ſhall leave the mere queſtion of evidence, and content myſelf with offering a few proofs that the cow-pox and ſmall-pox are the ſame morbid poiſon. Theſe proofs ſhall reſt on thoſe laws which were eſtabliſhed in the early part of this work.

"The varieties of ſmall-pox have been marked by different writers. There is one, however, which is unnoticed by all, not excepting Sydenham: probably he had only ſeen it ſo caſually as not to think it deſerving of particular notice. This variety I wiſh to call the *pearl* ſort, becauſe the nearer the puſtule arrives to the figure and colour of a pearl, the more perfect is the character of the diſeaſe.

From the ſame; laſt chapter.

"Dr. Jenner in his firſt 'Enquiry into the Nature of Cow-pox,' mentions a ſmall-pox, which for ſome time ſpread through the county of Glouceſter ſo mild, that the lower orders of people loſt all their terrors of it, and the uſual intercourſe was maintained, as if no ſuch contagion exiſted. No other deſcription is given than that it never became confluent, and that it was, in a given number of ſubjects, as mild as if they had been all inoculcated*.

"The moſt ſtriking diſtinction in the diſeaſe to which I refer, is, that, contrary to what Sydenham obſerves both of the diſtinct and confluent, the puſtules in the face remain white, like thoſe on the body, till they ſcab. In the beſt marked caſes the puſtules are never very large, but particularly round. As they increaſe, the upper ſurface extends over the baſe; and as they dry, the ſcab becomes nearly globular, that is, the whole is diſtinguiſhable above the ſkin, without concealing more of the ſphere than what would happen were ſuch a figure actually placed upon the furface. If the puſtule is diſſected, the ſlough at the bottom is found particularly thin. Hence, though the inflammation is inconſiderable, yet, the lymph being leſs diluted with pus, the ſcab is much harder, as well as more regularly formed, than from the common diſtinct ſmall-pox.

"This ſmall-pox is not only thus regular in its appearance, but is uniformly mild, and is never attended with what Sydenham calls the ſecondary fever, that is, the ſymptomatic fever from ſkinning. Thus, then, there may be a variety in ſmall-pox which proves permanent under inoculation.

* "Enquiry," &c. Firſt Part. I cannot now tell in what Journal or Tranſactions I have read an account of a ſmall-pox ſo generally mild, that after a time no one took the trouble to inoculate, but expoſed themſelves without fear. A.

"The next thing I would remark is, that ſmall-pox and cow-pox, contrary to the law of all morbid poiſons, which are different in their nature, will proceed together in the ſame perſon, without the ſmalleſt interruption of each other's courſe. If inſerted nearly at the ſame time, in the ſame perſon, each proceeds in the ſame courſe as if they were in two different ſubjects:—if inſerted nearly in the ſame ſpot, the two form one common areola; but the veſications are diſtinct, and each preſerves its own character, till that of ſmall-pox becomes purulent from ſuppuration for the ſeparation of the ſlough. If ſecondary puſtules follow from the ſmall-pox, and they ſhould continue coming out till the cow-pox has completed its progreſs, its veſicle, like any other inflamed part, will become the ſeat of a ſmall-pox puſtule, or the whole veſicle will become purulent, contrary to its legitimate character. In the firſt caſe, you may take ſmall-pox matter from the puſtule, which, by the adheſive inflammation, will remain diſtinct from, though ſeated in part of the vaccine veſicle; and from the other parts of the veſicle you may take vaccine matter, and each will perpetuate its reſpective morbid poiſon. If the whole veſicle becomes purulent, it is a variolous puſtule, and will inoculate ſmall-pox.

"It was remarked by Dr. Woodville, that if a perſon is inoculated with ſmall-pox to day, and three or four days after is re-inoculated with the ſame morbid poiſon, though the laſt inſertion may remain a ſmaller puſtule than the firſt, yet both inoculations will arrive at their height at the ſame time. The ſame takes place in cow-pox; and alſo, if a perſon is inoculated to-day with cow-pox, and three or four days after with ſmall-pox; or to-day with ſmall-pox; and three or four days after with cow-pox; the two inſertions, though the laſt may remain ſmaller than the firſt, will maturate and ſcab at the ſame time.

"By theſe facts it appears, firſt, that a marked kind of ſmall-pox may be perpetuated. If, therefore, the cow-pox is a marked kind of ſmall-pox, there can be no reaſon why it ſhould not have been perpetuated with its true character; and that the cow-pox is ſuch, appears, ſecondly, by its not being interrupted by, and not interrupting the progreſs of ſmall-pox, and by both retaining their reſpective laws and characters at the ſame time, whether inoculated ſeparately in different ſubjects, or in the ſame: or if each has been inoculated in the ſame ſubject at different times, the conſequence is ſimilar to the inoculation of either one, at different times.

"Theſe experiments have been repeated ſo often, as to leave no queſtion concerning the law. The ſame experiments have been repeatedly tried with ſmall-pox and varicella, with ſmall-pox and meaſles, and alſo with cow-pox and each of the others; yet thoſe interruptions have always followed which have been remarked in the early part of the work.

"As, therefore, a marked variety of ſmall-pox is capable of preſerving its diſtinct character under inoculation, there ſeems no reaſon why the cow-pox ſhould not be among ſuch varieties; and as any of the known varieties will deſtroy the ſuſceptibility to the diſeaſe in all other forms, ſo there is no reaſon why cow-pox, if among the varieties, ſhould not do the ſame; and there is the more reaſon to expect this, becauſe, contrary to any other morbid poiſons, the action of ſmall-pox and cow-pox is maintained at the ſame time in different parts of the ſame conſtitution, ſubject reſpectively to ſimilar laws, whether only one or both of them are applied in any variety of forms.

"It may be ſaid that ſmall-pox is an eruptive diſeaſe, whilſt cow-pox, though affecting the conſtitution, is only confined in its local action to a ſingle part. But ſmall-pox is ſometimes,

we have ſeen, equally confined in its local action, and principally in thoſe caſes in which its appearance moſt reſembles cow-pox. It is not leſs certain that cow-pox, on ſome occaſions, produces ſecondary eruptions. Beſides the caſes I have ſeen myſelf, the Rev. Mr. Holt* gives an account of a full eruption of veſicles, which had the ſame properties of contagion as the inoculated part. The Rev. Mr. Fermor† ſaw a few ſcattered in different parts. Dr. Woodville firſt remarked that they appear at the time the inoculated part has formed a ſcab, which was not the caſe with thoſe which, in his earlier experiments, proved to be variolous. This appearance after the diſeaſe is conſidered as complete, as well as the few inſtances in which they occur may be the reaſon why they are ſo rarely ſeen. Dr. Jenner deſcribes them as occurring ſometimes in perſons vaccinated whilſt under herpes, in which caſe they occupy the places before covered with herpetic blotches: he informs me likewiſe, that he has inoculated from a ſecondary puſtule on the knee. In the ſmall-pox hoſpital we have had ſeveral ſuch opportunities; but they are certainly rare, compared with the numbers vaccinated. However, the laſt week has furniſhed us with a ſecondary puſtule in the neck, the fluid from which is now producing the legitimate character in the arms of two different ſubjects.

"The laws above mentioned might be unſatisfactory to prove the ſecurity of cow-pox, if they were not confirmed by irreſiſtible facts; but the two together place the reſult with me beyond a doubt. That ſmall-pox has occurred after cow-pox cannot be queſtioned, nor that it has occurred after ſmall-pox. That fatal caſes may have occurred, and others in which herpetic diſeaſes may have followed vaccination, is what I am not diſpoſed to doubt. But it is ſtrange that the ſtrong recommendations of ſome of its votaries, who have more zeal than wiſdom, ſhould have made the ſober part of

* Med. and Phyſ. Journal.

† Ibid.

us forget, that both inoculation and vaccination are only ſubmitted to in order to avoid greater evils. We know that men have been poiſoned by being ſucked by leeches; are we, on that account, to refuſe their uſe? We know that ſuppurations in the joints have followed inoculation for ſmall-pox: but how much more frequent has it occurred under the caſual diſeaſe? Cow-pox has never been accuſed of more than a few accidental herpetic eruptions, which very rarely occur, and which, when left to themſelves, have for the moſt part ſubſided ſpontaneouſly.

"Reſpecting the laws of the two, they are certainly more permanently different than between any other varieties of ſmall-pox. But this is all we can urge. The cow-pox has never proved contagious by effluvia. The cow-pox is unattended with a ſlough, which never fails to attend every variolous inſertion. But though the cow-pox does not induce ſlough, the action excited by it is not merely the elevation of the cuticle into a bladder: it extends to the cellular ſubſtance, without deſtroying its texture. Though the fat ſeems abſorbed, yet the cells remain entire with their former communication, till the lymph reaches a certain defined diſk; after this, if the fluid increaſes, it ſtretches the cuticle, ſo that the baſe is the narroweſt part of the whole. In this ſtate, if punctured, the exit of the lymph is very ſlow, on account of the various little cells communicating with each other in which it is contained. If ſuffered to remain long unpunctured, the cells will ſometimes break, or be abſorbed, and the cavity will be leſs interrupted. Secondary veſicles are entirely under the cuticle, and cannot be diſtinguiſhed by the eye from the cryſtallines of ſmall-pox in their early ſtage: this, and the time of their appearance, prove to a certainty that they cannot be the effect of re-inoculation by the fingers of the patients. The inſertions from cow-pox, though ſubject to ſome varieties, are more regular in their character than any morbid

poiſon with which we are acquainted whoſe progreſs is ſo rapid. The inſertions from ſmall-pox, though all attended with a ſlough, are extremely various in their appearance, and ſometimes for the firſt eight days, or longer, cannot eaſily be diſtinguiſhed by the eye from the cow-pox. But the ingenious diſcoverer has marked a permanent difference between the two, which has been too much unnoticed, namely, that in cow-pox the contents of the elevation are always limpid till the ſcab is formed; the ſmall-pox, on the contrary, always becomes purulent before it dries. This difference ariſes from the ſlough in the latter, which renders ſuppuration neceſſary for diſlodging the dead part. The cicatrix is a general but not a certain criterion. In the ſmall-pox it is either ſmooth or corrugated, depending on the manner in which the ſlough has caſt off: in the cow-pox it is either beſet with ſmooth indentations, or conſiſts of one or two ſmooth depreſſions, depending on the progreſs of the veſicle. If the cellular ſubſtance remains unbroken, the ſurface will remain marked, as the fat has been abſorbed to admit the fluid into the cells. If the inflammation has induced more violence, ſo that the cells themſelves are broken or abſorbed, the ſurface will be more even.

" As to every other mark of perfect or imperfect vaccination, nothing has been added ſince the diſcoverer publiſhed his 'Enquiry.' There is no mode of judging of vaccination but by the progreſs of the veſicle, by its contents, its ſcab, and cicatrix: and though the laſt may prove a confirmation when regular, it is not to be conſidered, when irregular,* as a ſufficient proof of want of ſecurity. The vaſt numbers we have teſted in every poſſible way at the hoſpital, prove to a conviction, that whatever objection may be made by the enemies of vaccination, or whatever doubts and anxieties may be nurſed by its over-zealous friends, the practice muſt ultimately bear down all oppoſition; and the arguments againſt it will

* Nor when wanting. *E.*

be forgotten, or only recollected, like the early pamphlets againſt variolous inoculation."

Med. and Chir. Rev.

*Remedy in Chronic Ophthalmia.**

An excellent application here recommended in chronic ophthalmia is the following:—two drachms of the *ſpiritus volatilis aromaticus*, and two ounces of boiling water, put into a veſſel capable of holding three ounces; then wrapping the veſſel in a hot cloth, and conducting the vapour to the eye by means of a ſmall funnel, or by merely bringing the veſſel cloſe to the eye. This ſhould be repeated three or four times a day, for at leaſt half an hour, and the eyelids and eyebrows gently rubbed with the ſame ſpirit.

Med. and Chir. Rev.

Artificial Pupil.†

In caſes of the cloſure of the pupil, an effect which often follows the operation for the cataract, the author operates in a manner different from that recommended by other writers. Finding that the artificial pupil made in the ordinary way often cloſed again after a time; and obſerving on different occaſions of wounds and operations, that the margin of the iris was readily detached from the ciliary ligament, M. *Scarpa* determined to make an artificial pupil in this way without previ-

* Scarpa on the principal diſeaſes of the eyes.
† From the ſame.

ouſly dividing the cornea, as is done in the common mode of operating. This he effects by perforating, with a fine, ſtraight couching needle, the ſclerotic coat at the external angle of the eye, about two lines from the union of the ſclerotica with the cornea, carrying the point of the needle as far as the upper and internal part of the margin of the iris, that is, on the ſide next the noſe. The inſtrument is then made to pierce the upper part of the internal margin of the iris, cloſe to the ciliary ligament, until its point is juſt perceptible in the anterior chamber of the aqueous humour. It ſhould then be preſſed upon the iris from above downward, and towards the external angle, ſo as to tear down the margin of the iris from its attachment above, which may be done to any extent that is deſired.

The ſubject of cataract is treated of at conſiderable length. A parallel is drawn between the two methods of operating, by *extraction* and by *depreſſion*, and the preference decidedly given to the latter, the advantages pecuiiar to which are pointed out. This ſubject has been lately ſo ably diſcuſſed by our ingenious countryman, Mr. Hey of Leeds, that we ſhall beg leave to refer our readers to his treatiſe, a pretty full account of which will be found in our Review.*

Med. and Chir. Rev.

Dubois's Caſe of a Calculus in the Bladder.

A caſe was lately communicated to the ſociety of medicine at Paris, by profeſſor *Dubois*, of a child three years old, that had ſuffered for many months under pain and difficulty of making water, which led to the ſuppoſition of the exiſtence

* See Med. and Chir. Rev. vol. x. p. 66.

of a calculus in the bladder. Upon ſounding him, a ſtone was actually felt, but it was judged by M. *Dubois* to be of ſo ſmall a ſize as not to require the operation of lithotomy. On examination ſome weeks after, the ſtone was found to have entered the urethra, and was wedged in ſo firmly, as not to be capable of being thruſt back by any inſtrument. The operation was ſtill delayed; when, one night, the patient complaining of excruciating pain, and the father of the child judging the pain to ariſe from the urine being ſuppreſſed by the calculus, it occurred to him to try the effect of ſuction. He therefore applied his mouth to the penis of the boy, and ſucked ſtrongly. This, at firſt, ſeemed to aggravate the pain; but in a little while the ſtone paſſed ſuddenly forward into the mouth, and was immediately followed by a guſh of urine.

Med. and Chir. Review.

REVIEW.

An eſſay on the truth of Phyſiognomy, and its application to Medicine. *By* RICHARD BROWN, A. M. *of Alexandria, Honorary Member of the Philadelphia Medical Soeiety, and Member of the Lycæum.*

This eſſay conſtitutes one of the few inaugural diſſertations, in the univerſity of Pennſylvania, for the year 1807, of the merits of which the public have been enabled to judge. Owing to a regulation recently entered into, relative to the mode of conferring degrees in medicine, moſt of the other diſſertations which ſhould have appeared at the ſame time with the preſent one, have been withheld from the preſs. The profeſſors alone have been favoured with a peruſal of them, while all other perſons are left to mere conjecture with regard to their worth.

Reſpecting the wiſdom of this meaſure it does not belong to us poſitively to decide. Time and experience, the only unerring teſts of all rules, and all eſtabliſhments, muſt be alſo the ultimate arbiters of this. We confeſs that our fears predominate over our hopes reſpecting their deciſion in the preſent inſtance. We deem it, however, a ſubject of congratulation to the friends of literature and ſcience, as well as to Dr. Brown himſelf, that the regulation here referred to has had no effect either in *relaxing the ardour of his ſpirit of inquiry, in preparing his theſis, or in excluding the fruits of this inquiry from the public eye.* For we cannot conceal our apprehenſions, that ſhould this regulation continue in force, *ſuch an effect* will be inevitably produced on too many of our future candidates for medical honours.

General phyſiognomy Dr. Brown defines to be "a knowledge of the connection that exiſts between the external or viſible appearances, and the internal or inviſible qualities of the works of nature." By human phyſiognomy, he means, "a knowledge of the phyſical, moral and intellectual qualities and endowments of man, derived from an obſervance of his countenance, perſon and deportment; a knowledge of what paſſes within him, founded on an inſpection of what appears without."

The truth of phyſiognomy is not only denied by many, but all pretenſions to it, as an object of purſuit, treated, if not as the dreams of a diſtempered brain, at leaſt as the wanderings of an eccentric imagination. A knowledge of this induced Dr. Brown to enter on a full vindication of this branch of ſcience from ſuch unfounded and illiberal charges. In this part of his eſſay, he has diſplayed great reading and obſervation, connected with a ſtrength of judgment, and powers of reaſoning, that would do honour to a man of much riper years.

It is under this head in particular, that our youthful author has taken an uncommonly wide and variegated range. For, though, as he juſtly obſerves, "phyſiognomy is generally treated of only in relation to beings poſſeſſed of life; yet it is an error to reſtrict it within ſo narrow a compaſs. It greatly tranſcends the bounds of the animal and vegetable kingdoms, and may be ſaid, without an hyperbole, to be commenſurate with thoſe of nature herſelf." Conformably to this opinion, his firſt attempt is to eſtabliſh the truth of what he calls "the phyſiognomy of the heavens." From this daring height he ſuddenly deſcends, though not with Icarian fate, to the phyſiognomy of the earth, where equal ſucceſs awaits his labours. He then paſſes on to the phyſiognomy of vegetables, from whence he again haſtens to a ſtill richer and more favourite field, "the phyſiognomy of animated nature." Under this head we need offer no apology to the reader, for laying before him the two following paragraphs, in our author's own words.

"When we haſtily glance our eyes over the fields, foreſts, marſhes, and mountains, we behold them peopled with animals, differing from each other in appearance and in character. Some of theſe animals ſubſiſt on the fleſh of their fellow-creatures, others on vegetables; ſome of them procure their food by ſtratagem, and others by ſtrength. They are all perfectly calculated by their forms, ſtructures and diſpoſitions for the particular modes of life they are ſeverally deſtined to purſue. But this is not all. The general aſpects of many of them convey to the minds even of common obſervers, a correct knowledge of the propenſities, qualities, and diſpoſitions, which they poſſeſs.

"Who under the commanding figure and aſpect of the eagle, would expect to find the gentleneſs and timidity of the dove? or the bold and generous daring of the lion under the ſhrinking appearance of the hind? Is not ſavage fierceneſs

ſtrongly pourtrayed in the countenance of the tiger, treachery and voracious cruelty in the appearance of the wolf, honeſty, patience and moderation in that of the cow, inſidious cunning in the fox, magnanimous courage in the horſe, and the moſt inoffenſive innocence in the aſpect of the lamb? Is not the appearance of the hog expreſſive of ſloth and ſtupidity, that of the baboon or the monkey of acuteneſs and drollery, and that of the ſtag of great timidity united to an equal degree of ſwiftneſs and ſtrength? We may obſerve in general that the aſpect of carnivorous animals, whether birds or beaſts, beſpeaks a ferocity and an unrelentingneſs of diſpoſition, while that of the herbivorous or graminivorous is characteriſtic of more mildneſs and docility of temper. And ſuch in reality is the difference that exiſts between the characters and diſpoſitions of theſe two tribes of animals."

Our author next proceeds to conſider the phyſiognomy of man. In his attempt to prove the truth of this branch of his ſubject, he has exhibited not only an able but a very elegant ſpecimen of learning and intellect. The writers whom he quotes are of the firſt rank in literature both ancient and modern, and he has ſhewn himſelf to poſſeſs a correct, familiar and commanding knowledge of them. His acquaintance with the Greek mythology in particular, as well as the moſt diſtinguiſhed of the Greek, Roman and Italian poets, appears to ſingular advantage. But, for the ſupport of his doctrine, he does not depend excluſively on the authority of others. Perhaps his weightieſt evidence is derived from the reſources of his own obſervation. Let us liſten to ſome of his remarks on this head.

"I aſſert it as a fact, and challenge the diſbelievers in phyſiognomy to prove to the contrary, that the world has never yet produced a truly great man, clothed in an aſpect of inſignificance. When preeminent and ſtriking qualities, whe-

ther good or bad, predominate in the mind, they are uniformly accompanied by ſome correſponding marks in the countenance. Was there ever an Alexander or a Cæſar with a timid look? a Cicero or a Newton with the vacant face of an ideot? a Nero or a Domitian with the calmneſs and ſerenity of virtue or benevolence on their brows? or a Marcus Aurelius, or a Waſhington with a countenance, marked by weakneſs or clouded with guilt? It is neither raſh nor preſumptuous to pronounce, with confidence, that there never was. A Centaur itſelf, compoſed of the head and body of a man, and the extremities of a horſe, would not be a more perfect monſter in nature, than a prince, poſſeſſing the mental energies of a Buonaparte, with the weak and vapid countenance of a Henry VI. Theſe are truths which reaſon herſelf inculcates on us through the pureſt of channels, obſervation and experience."

Again: "A tacit confidence in the truth of phyſiognomy, conſtitutes the baſis of all ſudden attachments between the ſexes, as well as of many friendſhips between individuals of the ſame ſex. On theſe occaſions, it is not merely beauty of form, complexion, or features; it is the ſoul—illumined female face, the countenance of ſoft ſenſibility, of inexpreſſible ſweetneſs, or of brilliant vivacity, that firſt lights up, as by the breath of magic, the tender flame in the boſom of the lover. In many inſtances alſo, ſudden and laſting friendſhips between men are founded, at firſt, on nothing more than an intuitive perception in the parties, of a mutual correſpondence or affinity of mind, founded entirely on their reſpective appearances. I preſume that very few have arrived at the age of maturity, without experiencing in their own perſons, ſomething of the truth of this remark. For it appears almoſt impoſſible for any individual to mingle in ſociety, without diſcovering ſome other individual, with whom at firſt ſight, he does not feel a ſecret deſire to cultivate an acquaintance."

Dr. Brown now paſſes on to treat of *medical phyſiognomy*, which he defines "a knowledge or diſcovery of the internal diſeaſed affections of the ſyſtem, derived from an examination of the external appearances exhibited by the ſick." For the truth of this branch of knowledge, he appeals to books as well as to obſervation, and points out in a very clear and ſatisfactory manner, the advantages which a phyſician muſt derive from an acquaintance with it.

He goes on to treat of the temperaments of man. Theſe he conſiders as natural or conſtitutional prediſpoſitions to certain forms or ſtates of diſeaſe, in preference to others. He thinks there are but three temperaments diſtinctly marked by external appearances, namely, the *ſanguineous*, the *bilious*, and the *lymphatic*. He enumerates, with correctneſs and perſpicuity, the viſible marks of complexion, countenance, and perſon, conſidered as characteriſtic of theſe ſeveral temperaments, and mentions the diſeaſes to which individuals poſſeſſing them are more peculiarly liable. What is called the *melancholic* he does not regard as an original temperament at all, but as an actual ſtate of diſeaſe connected with the bilious temperament. This diſeaſed ſtate he ſuppoſes to conſiſt in viſceral obſtructions.

Our author concludes his intereſting diſſertation by enumerating various phyſiognomonical ſigns that occur in diſeaſes, annexing to each ſign its natural expreſſion or indication, relative to the death or recovery of the ſick. He acknowledges that, under this head of his ſubject, he derives his principal information from Hippocrates, whoſe order and method, in his prognoſtics, he accurately purſues. The particular ſources from which theſe phyſiognomonical ſigns are drawn, are the *countenance*, the *tongue*, the *teeth*, the *reſpiration*, the *decubitus*, and the *extremities* of the ſick.

But numerous as the excellencies and beauties of this diſſertation are, it cannot be ſaid to be altogether free from faults. Dr. Brown ſeems to alledge, that the Cretins of the Alps, and the Albinos, are of the ſame tribe or deſcription of people. This we believe to be a miſtake, though it, no doubt, aroſe more from inadvertence than from a want of correct knowledge on the ſubject. We, notwithſtanding, concur in opinion with the Doctor on the principal point he wiſhes to eſtabliſh, namely, that both Cretins and Albinos poſſeſs, in general, the lymphatic temperament in a very high degree.

Another objection we would urge is, that the diſſertation is too conciſe under the immediate head of *medical phyſiognomy*. This, though, perhaps, not in all reſpects the moſt intereſting, is certainly the principal and moſt uſeful diviſion of the whole ſubject. It is a matter of regret, therefore, that our learned and ingenious author has not dwelt on it more at large, and treated it more in detail. We hope, however, that he will make amends for this in future, by continuing to purſue a ſubject, to which he is ſo well calculated to do ample juſtice.

On the whole, we cannot forbear ſpeaking of Dr. Brown as a young author of very ſuperior promiſe. Should he perſevere in the cultivation of thoſe talents for reſearch and fine writing, with which nature has ſo liberally endowed him, he cannot fail to do honour to himſelf, his profeſſion, and his country. His diſſertation " on the truth of phyſiognomy, and itsapplication to medicine," is moſt cordially recommended as a delightful repaſt to the lovers of ſcience and polite literature.

CORRESPONDENCE.

Sir,

One of your correſpondents, acknowledging his fondneſs of prying into the *arcana naturæ*, wiſhes the ſolution of a queſtion that I have been often aſked; why the *montes pectoris* have lately acquired ſuch a prominency?

This, our enquirer ſeems to conſider as a phenomenon unnoticed in his youthful days, throwing, at the ſame time, ſome hints upon ſeveral cauſes to which it might be aſcribed. As the beauties of nature have always commanded my attention, I beg, *ſans aller trop loin*, to participate with him my obſervations.

Like the heavenly bodies, thoſe globes have their apogee and perigee, eclipſe and apparition. Happy are we to live under the preſent phaſis; may it laſt as long as the ſun continues to ſhine upon our planet. I have, ſome years ago, predicted with as much certainty, as I might have announced an eclipſe of the moon, their appearance; the verging to natural good taſte being a ſymptom that cannot eſcape an obſerving eye; for I muſt tell, by the bye, that they were in exiſtence then, as well as at this preſent time, but inhumanly ſuffering under the oppreſſion of an erroneous, I may ſay, a deleterious prejudice.

The looſe, elegant and natural dreſs, but not "the looſe manners of the age," has given to nature the opportunity of re-conquering her rights overpowered by the deſpotiſm of error. The moſt enchanting being was for many years paſt ſo much fettered and bundled up, that if any of our anceſtors were coming now to viſit us, they would undoubtedly think, that a new creation has taken place on the face of the earth. I am almoſt aſhamed to recollect, that the American fair ſex, who has a claim to, and indubitably deſerves *la pomme d'or*,

was ſo much diſguiſed, by the ungraceful dreſs of former times, that foreigners remarked, that our women had nothing prominent but the ſhoulders. But we are now under great obligation to them, for having reſtored every thing to its right place.

Love tales and novels were read by our young girls many years ago; they can produce no other effect now than they did then; but if I could think that they might have the power of improving, *ou le moule, ou l'ouvrage de la nature*, I would immediately give them the firſt place in our materia medica.

Suppoſing for a moment that the reading of laſcivious books increaſes ſome ſecretions, admitting likewiſe all the power of ſympathy, and granting every concluſion of ingenious young men upon the arcana of generation; *experience*, which I beg leave to introduce as deſerving an ample ſhare of credit, teaches us, that *les femmes qui ſont les plus laſcives, ſont celles qui ont le moins de ſein.* DELTA.

J. R. COXE, M. D.

Dr. *Woodhouſe* informed the editor, that he has received a number of ſpecimens of molybdena from Cheſter county, Pennſylvania. It is found mixed with iron and copper pyrites, and is depoſited on quartz. Its ſpecific gravity, at 62° of Fahrenheit's thermometer is 4,648.

The ſame gentleman has obtained honey of an exquiſite taſte, which depoſites cryſtals of brown ſugar, by digeſting alkohol, on the ripe fruit of the Dyoſpyros Virginiana, American prune, date plum or perſimmon tree, and evaporating the ſolution. This tree is a native of all the ſouthern ſtates. The juice of the unripe fruit, poſſeſſes more aſtringency, and contains a greater quantity of the tanning principle, than any vegetable in the world.

The Editor has received through the attention of Dr. John C. Warren, recording ſecretary of the Maſſachuſetts medical ſociety, the ſecond number, (part firſt) of a work publiſhed by the Society, entitled "Medical papers, communicated to the Maſſachuſetts Medical Society," &c.

Not having ſeen the firſt number, which probably contains the plan intended to be purſued in the proſecution of the work; the Editor can only congratulate his brethren, upon the energy which appears to pervade the medical profeſſion throughout America. The contemplation of the benefits likely to be derived, from a publication conducted under the ſanction of ſo reſpectable an inſtitution, cannot but prove highly ſatisfactory, and we ſincerely truſt that nothing may obſtruct its continuance.

The present number consists of the following very interesting communications, viz.

1. Medical discourse on several narcotic plants, by Dr. Fisher.
2. Case of ruptured uterus, by Dr. Prescott.
3. Of dislocation and fracture, by Dr. Hazaltine.
4. Of preternatural retention of urine, by Dr. Thatcher.
5. History of a wound in the femoral artery, by Dr. Warren, jun.
6. Some observations on worms infesting the human body, by Dr. Fisher.

The Names of the Officers of the Society, for 1806, are prefixed, viz.

John Warren, M. D. *President;* Joshua Fisher, M. D. *Vice-President.*

Censors. Lemuel Hayward, A. M. Thomas Welsh, A. M. Aaron Dexter, M. D. Josiah Bartlett, M. D. William Spooner, M. D. James Jackson, M. B. *Treasurer.* Thomas Welsh, A. M. *Corresp. Secretary,* John C. Warren, M. D. *Rec. Secretary.* John Fleet, M. D. *Librarian.*

Censors of the District Society of Worcester.

Oliver Fisk, John Green, John Frink, Jonathan Osgood, Thomas Babbit.

Counsellors.

Suffolk.—Isaac Rand, Lemuel Hayward, John Jeffries, Thomas Kast, John Warren, Thomas Welsh, Aaron Dexter, William Eustis, William Spooner, John Fleet, Isaac Rand, jun. Thomas Danforth, James Jackson, John C. Warren, John C. Howard.

Essex.—Edward A. Holyoke, Micajah Sawyer, Joshua Fisher, Thomas Kittredge, Benjamin L. Oliver, John D. Treadwell.

Middlesex.—Josiah Bartlett, John Brooks, Isaac Hurd, Oliver Prescott, William Gammage.

Worcester.—Oliver Fisk, Israel Atherton, Jonathan Osgood.

Hampshire.—Ebenezer Hunt, Henry Wells, Chauncey Brewer.

Berkshire.—Erastas Sargeant, Timothy Childs.

Norfolk.—Cotton Tufts, Amos Holbrook, John Bartlett.

Plymouth—James Thatcher, Gad Hitchcock.

Bristol.—William Baylies.

Barnstable and Nantucket—Samuel Savage.

Maine—Daniel Cony, Nathaniel Coffin, A. R. Mitchell, Shirley Erving, Samuel Adams.

THOMAS DOBSON will speedily publish an abridgment of Baudelocque's Midwifery, by Dr. Dewees of this city.

Erratum.—page xc line 23. *Acarus Firo*—read *Acarus Siro.*

MEDICAL AND PHILOSOPHICAL REGISTER.

FOREIGN AND DOMESTIC.

Report of the Royal College of Phyſicians of London, on Vaccination. With an Appendix, containing the Opinions of the Royal College of Phyſicians of Edinburgh and Dublin; and of the Royal Colleges of Surgeons of London, of Dublin, and of Edinburgh.

THE Royal College of Phyſicians of London, having received his Majeſty's commands, in compliance with an addreſs from the Houſe of Commons, "to inquire into the ſtate of Vaccine inoculation in the United Kingdom, to report their opinion and obſervations upon that practice, upon the evidence which has been adduced in its ſupport, and upon the cauſes which have hitherto retarded its general adoption;" have applied themſelves diligently to the buſineſs referred to them.

Deeply impreſſed with the importance of an inquiry which equally involves the lives of individuals and the public proſperity, they have made every exertion to inveſtigate the ſubject fully and impartially. In aid of the knowledge and experience of the members of their own body, they have applied ſeparately to each of the Licentiates of the college; they have correſponded with the Colleges of Phyſicians of Dublin and Edinburgh; with the Colleges of Surgeons of London, Edinburgh, and Dublin; they have called upon the ſocieties eſtabliſhed for vaccination, for an account of their practice, to what extent

it has been carried on, and what has been the reſult of their experience; and they have, by public notice invited individuals to contribute whatever information, they had ſeverally collected. They have in conſequence been furniſhed with a maſs of evidence communicated with the greateſt readineſs and candour, which enables them to ſpeak with confidence upon all the principal points referred to them.

I. During eight years which have elapſed ſince Dr. Jenner made his diſcovery public, the progreſs of vaccination has been rapid, not only in all parts of the United Kingdom, but in every quarter of the civilized world. In the Britiſh iſlands ſome hundred thouſands have been vaccinated; in our poſſeſſions in the Eaſt Indies upwards of 800,000, and among the nations of Europe the practice has become general. Profeſſional men have ſubmitted it to the faireſt trials, and the public have, for the moſt part, received it without prejudice. A few indeed have ſtood forth the adverſaries of vaccination, on the ſame grounds as their predeceſſors who oppoſed the inoculation for the ſmall-pox, falſely led by hypothetical reaſoning in the inveſtigation of a ſubject which muſt be ſupported, or rejected, upon facts and obſervation only. With theſe few exceptions, the teſtimony in favour of vaccination has been moſt ſtrong and ſatisfactory, and the practice of it, though it has received a check in ſome quarters, appears ſtill to be upon the increaſe in moſt parts of the United Kingdom.

II. The College of Phyſicians, in giving their obſervations and opinions on the practice of vaccination, think it right to premiſe, that they advance nothing but what is ſupported by the multiplied and unequivocal evidence which has been brought before them, and they have not conſidered any facts as proved, but what have been ſtated from actual obſervation.

Vaccination appears to be in general perfectly ſafe; the inſtances to the contrary being extremely rare. The diſeaſe excited by it is ſlight, and ſeldom prevents thoſe under it from following their ordinary occupations. It has been communicated with ſafety to pregnant women, to children during dentition, and in their earlieſt infancy; in all which reſpects it poſſeſſes material advantages over inoculation for the ſmall-pox; which, though productive of a diſeaſe generally mild, yet ſometimes occaſions alarming ſymptoms, and is in a few caſes fatal.

The ſecurity derived from vaccination againſt the ſmall-pox, if not abſolutely perfect, is as nearly ſo as can perhaps be expected from any human diſcovery; for amongſt ſeveral hundred thouſand caſes, with the reſults of which the College have been made acquainted, the number of alleged failures have been ſurpriſingly ſmall, ſo much ſo, as to form certainly no reaſonable objection to the general adoption of vaccination; for it appears that there is not nearly ſo many failures in a given number of vaccinated perſons, as there are deaths in an equal number of perſons inoculated for the ſmall-pox. Nothing can more clearly demonſtrate the ſuperiority of vaccination over the inoculation of the ſmall-pox, than this conſideration; and it is a moſt important fact, which has been confirmed in the courſe of this inquiry, that in almoſt every caſe, where the ſmall-pox has ſucceeded vaccination, whether by inoculation or by caſual infection, the diſeaſe has varied much from its ordinary courſe; it has neither been the ſame in violence, nor in the duration of its ſymptoms, but has, with very few exceptions, been remarkably mild, as if the ſmall-pox had been deprived, by the previous vaccine diſeaſe, of all its uſual malignity.

The teſtimonies before the College of Phyſicians are very decided in declaring, that vaccination does leſs miſchief to the

conſtitution, and leſs frequently gives riſe to other diſeaſes, than the ſmall-pox, either natural or inoculated.

The College feel themſelves called upon to ſtate this ſtrongly, becauſe it has been objected to vaccination, that it produces new, unheard-of, and monſtrous diſeaſes. Of ſuch aſſertions no proofs have been produced, and, after diligent inquiry, the College believe them to have been either the inventions of deſigning, or the miſtakes of ignorant men. In theſe reſpects then, in its mildneſs, its ſafety, and its conſequences, the individual may look for the peculiar advantages of vaccination. The benefits which flow from it to ſociety are infinitely more conſiderable; its ſpreads no infection, and can be communicated only by inoculation. It is from a conſideration of the pernicious effects of the ſmall-pox, that the real value of vaccination is to be eſtimated. The natural ſmall-pox has been ſuppoſed to deſtroy a ſixth part of all whom it attacks; and that even by inoculation, where that has been general in pariſhes and towns, about one in 300 has uſually died. It is not ſufficiently known, or not adverted to, that nearly one-tenth, ſome years more than one-tenth of the whole mortality in London, is occaſioned by the ſmall-pox; and however beneficial the inoculation of the ſmall-pox may have been to individuals, it appears to have kept up a conſtant ſource of contagion, which has been the means of increaſing the number of deaths by what is called the natural diſeaſe. It cannot be doubted that this miſchief has been extended by the inconſiderate manner in which great numbers of perſons, even ſince the introduction of vaccination, are ſtill every year inoculated with the ſmall-pox, and afterwards required to attend two or three times a week at the places of inoculation, through every ſtage of their illneſs.

From this, then, the public are to expect the great and uncontroverted ſuperiority of vaccination, that it communicates

no caſual infection, and, while it is a protection to the individual, it is not prejudicial to the public.

III. The College of Phyſicians, in reporting their obſervations and opinions on the evidence adduced in ſupport of vaccination, feel themſelves authoriſed to ſtate that a body of evidence ſo large, ſo temperate, and ſo conſiſtent, was perhaps never before collected upon any medical queſtion. A diſcovery ſo novel, and to which there was nothing analogous known in nature, though reſting on the experimental obſervations of the inventor, was at firſt received with diffidence: it was not, however, difficult for others to repeat his experiments, by which the truth of his obſervations was confirmed, and the doubts of the cautious were gradually diſpelled by extenſive experience. At the commencement of the practice, almoſt all that were vaccinated were afterwards ſubmitted to the inoculation of the ſmall-pox; many underwent this operation a ſecond, and even a third time, and the uniform ſucceſs of theſe trials quickly bred confidence in the new diſcovery. But the evidence of the ſecurity derived from vaccination againſt the ſmall-pox does not reſt alone upon thoſe who afterwards underwent variolous inoculation, although amounting to many thouſands; for it appears, from numerous obſervations communicated to the College, that thoſe who have been vaccinated are equally ſecure againſt the contagion of epidemic ſmall-pox. Towns indeed, and diſtricts of the country, in which vaccination had been general, have afterwards had the ſmall-pox prevalent on all ſides of them without ſuffering from the contagion. There are alſo in the evidence a few examples of epidemic ſmall-pox having been ſubdued by a general vaccination. It will not, therefore, appear extraordinary, that many who have communicated their obſervations ſhould ſtate, that though at firſt they thought unfavourably of the practice, experience had now removed all their doubts.

It has been already mentioned, that the evidence is not univerſally favourable, although it is in truth nearly ſo, for there are a few who entertain ſentiments differing widely from thoſe of the great majority of their brethren. The College, therefore, deemed it their duty, in a particular manner, to inquire upon what grounds and evidence the oppoſers of vaccination reſted their opinions. From perſonal examination, as well as from their writings, they endeavoured to learn the full extent and weight of their objections. They found them without experience in vaccination, ſupporting their opinions by hearſay information, and hypothetical reaſoning, and, upon inveſtigating the facts which they advanced, they found them to be either miſapprehended or miſrepreſented, or that they fell under the deſcription of caſes of imperfect ſmall-pox, before noticed, and which the College have endeavoured fairly to appreciate.

The practice of vaccination is but of eight years ſtanding, and its promoters, as well as opponents, muſt keep in mind, that a period ſo ſhort is too limited to aſcertain every point, or to bring the art to that perfection of which it may be capable. The truth of this will readily be admitted by thoſe acquainted with the hiſtory of inoculation for the ſmall-pox. Vaccination is now, however, well underſtood, and its character accurately deſcribed. Some deviations from the uſual courſe have occaſionally occurred, which the author of the practice has called ſpurious cow-pox, by which the public have been miſled, as if there were a true and falſe cow-pox; but it appears, that nothing more was meant, than to expreſs irregularity or difference from that common form and progreſs of the vaccine puſtule from which its efficacy is inferred. Thoſe who perform vaccination ought therefore to be well inſtructed, and ſhould have watched with the greateſt care the regular progreſs of the puſtule, and learnt the moſt proper time for taking the matter. There is little doubt that ſome of the

failures are to be imputed to the inexperience of the early vaccinators, and it is not unreaſonable to expect that farther obſervations will yet ſuggeſt many improvements that will reduce the number of anomalous caſes, and furniſh the means of determining, with greater preciſion, when the vaccine diſeaſe has been effectually received.

Though the College of Phyſicians have confined themſelves in eſtimating the evidence to ſuch facts as have occurred in their own country, becauſe the accuracy of them could beſt be aſcertained, they cannot be inſenſible to the confirmation theſe receive from the reports of the ſucceſsful introduction of vaccination, not only into every part of Europe, but throughout the vaſt continents of Aſia and America.

IV. Several cauſes have had a partial operation in retarding the general adoption of vaccination; ſome writers have greatly undervalued the ſecurity it affords, while others have conſidered it to be of a temporary nature only; but if any reliance is to be placed on the ſtatements which have been laid before the College, its power of protecting the human body from the ſmall-pox, though not perfect indeed, is abundantly ſufficient to recommend it to the prudent and diſpaſſionate, eſpecially as the ſmall-pox, in the few inſtances where it has ſubſequently occurred, has been generally mild and tranſient. The opinion that vaccination affords but a temporary ſecurity is ſupported by no analogy in nature, nor by the facts which have hitherto occurred. Although the experience of vaccine inoculation be only of a few years, yet the ſame diſeaſe, contracted by the milkers of cows, in ſome diſtricts has been long enough known to aſcertain that in them, at leaſt the unſuſceptibility of the ſmall-pox contagion does not wear out by time. Another cauſe, is the charge againſt vaccination of producing various new diſeaſes of frightful and monſtrous appearance.

Repreſentations of ſome of theſe have been exhibited in prints in a way to alarm the feelings of parents, and to infuſe dread and apprehenſion into the minds of the uninformed. Publications with ſuch repreſentations have been widely circulated, and though they originate either in groſs ignorance, or wilful miſrepreſentation, yet have they leſſened the confidence of many, particularly of the lower claſſes, in vaccination; no permanent effects, however, in retarding the progreſs of vaccination, need be apprehended from ſuch cauſes, for, as ſoon as the public ſhall view them coolly and without ſurpriſe, they will excite contempt, and not fear.

Though the College of Phyſicians are of opinion that the progreſs of vaccination has been retarded in a few places by the above cauſes, yet they conceive that its general adoption has been prevented by cauſes far more powerful, and of a nature wholly different. The lower orders of ſociety can hardly be induced to adopt precautions againſt evils which may be at a diſtance; nor can it be expected from them, if theſe precautions are attended with expenſe. Unleſs therefore, from the immediate dread of epidemic ſmall-pox, neither vaccination nor inoculation appear at any time to have been general, and when the cauſe of terror has paſſed by, the public have relapſed again into a ſtate of indifference and apathy, and the ſalutary practice has come to a ſtand. It is not eaſy to ſuggeſt a remedy for an evil ſo deeply imprinted in human nature. To inform and inſtruct the public mind may do much, and it will probably be found that the progreſs of vaccination in different parts of the United Kingdom will be in proportion to that inſtruction. Were encouragement given to vaccination, by offering it to the poorer claſſes without expenſe, there is little doubt but it would in time ſuperſede the inoculation for the ſmall-pox, and thereby various ſources of variolous infection would be cut off; but till vaccination becomes general, it will be impoſſible to prevent the conſtant recurrence of the natural

ſmall-pox by the means of thoſe who are inoculated, except it ſhould appear proper to the legiſlature to adopt, in its wiſdom, ſome meaſure by which thoſe who ſtill, from terror or prejudice, prefer the ſmall-pox to the vaccine diſeaſe, may, in thus conſulting the gratification of their own feelings, be prevented from doing miſchief to their neighbours.

From the whole of the above conſiderations, the College of Phyſicians feel it their duty ſtrongly to recommend the practice of vaccination. They have been led to this concluſion by no pre-conceived opinion, but by the moſt unbiaſſed judgment, formed from an irreſiſtible weight of evidence which has been laid before them. For when the number, the reſpectability, the diſintereſtedneſs, and the extenſive experience of its advocates, is compared with the feeble and imperfect teſtimonies of its few oppoſers; and when it is conſidered that many, who were once adverſe to vaccination, have been convinced by further trials, and are now to be ranked among its warmeſt ſupporters, the truth ſeems to be eſtabliſhed as firmly as the nature of ſuch a queſtion admits; ſo that the College of Phyſicians conceive that the public may reaſonably look forward with ſome degree of hope to the time when all oppoſition ſhall ceaſe, and the general concurrence of mankind ſhall at length be able to put an end to the ravages at leaſt, if not to the exiſtence, of the ſmall-pox.

LUCAS PEPYS, *Preſident.*

Royal College of Phyſicians
10th April 1807.

JA. HERVEY, *Regiſter.*

APPENDIX.

No. I.

To the Royal College of Phyſicians of London.

GENTLEMEN,

I AM ordered by the King and Queen's College of Phyſicians, in Ireland, to thank the Royal College of Phyſicians, of London, for the communication they have had the honour to receive from them, of certain propoſitions relative to vaccination, whereon His Majeſty has been pleaſed to direct an inquiry to be inſtituted, and in the proſecution of which, the cooperation of the College in Ireland is requeſted.

And I am directed to acquaint you, that the ſaid College having referred the inveſtigation of theſe propoſitions to a committee, have received from them a report, of which the encloſed is a copy; and that they deſire the ſame may be conſidered as containing their opinion upon the ſubject.

I have the honour to be, Gentlemen,

Your moſt obedient humble Servant,

HUGH FERGUSON, *Regiſter.*

By order of the King and Queen's College of
Phyſicians in Ireland.
Dublin, Nov. 11*th*, 1806.

"The practice of Vaccination was introduced into this city about the beginning of the year 1801, and appears to have made inconſiderable progreſs at firſt. A variety of cauſes ope-

rated to retard its general adoption, amongſt which the novelty of the practice, and the extraordinary effects attributed to vaccination, would naturally take the lead.

"Variolous inoculation had been long, almoſt excluſively, in the hands of a particular branch of the profeſſion, whoſe prejudices and intereſts were ſtrongly oppoſed to the new practice; and by their being the uſual medical attendants in families, and eſpecially employed in the diſeaſes of children, their opinions had greater effect upon the minds of parents. The ſmall-pox is rendered a much leſs formidable diſeaſe in this country by the frequency of inoculation for it, than it is in other parts of His Majeſty's dominions, where prejudices againſt inoculation have prevailed; hence parents, not unnaturally, objected to the introduction of a new diſeaſe, rather than not recur to that, with the mildneſs and ſafety of which they were well acquainted.

"In the beginning of the year 1804, the Cow-pox Inſtitution was eſtabliſhed, under the patronage of the earl of Hardwicke, and it is from this period that we may date the general introduction of vaccination into this city, and throughout all parts of Ireland.

"The ſucceſs of the inſtitution, in forwarding the new practice, is to be attributed in a great meaſure to the reſpectability of the gentlemen who ſuperintend it, and to the diligence, zeal, and attention of Dr. Labatt, their Secretary and Inoculator. In order to ſhew the progreſs which has been made in extending vaccination, your committee refer to the reports of the Cow-pox inſtitution for the laſt two years, and to extracts from their Regiſter for the preſent year.

Year.	Patients Inoculated.	Packets iſſued to Practitioners in general.	Packets to Army Surgeons
1804 -	578	776	236
1805 -	1,032	1,124	178
1806 -	1 356	1,340	220
Total -	2,966	3,240	634

"In the above ſtatement, the numbers are averaged to the end of the preſent year, on the ſuppoſition of patients reſorting to the inſtitution as uſual. The correſpondence of the inſtitution appears to be very general throughout every part of Ireland, and by the accounts received, as well from Medical Practitioners as others, the ſucceſs of vaccination ſeems to be uniform and effectual. At the preſent period, in the opinion of your Committee, there are few individuals in any branch of the profeſſion, who oppoſe the practice of vaccination in this part of His Majeſty's dominions.

"It is the opinion of your Committee, that the practice of Cow-pox Inoculation is ſafe, and that it fully anſwers all the purpoſes that have been intended by its introduction. At the ſame time, your Committee is willing to allow that doubtful caſes have been reported to them as having occurred, of perſons ſuffering from Small-pox, who had been previouſly vaccinated. Upon minute inveſtigation, however, it has been found that theſe ſuppoſed inſtances originated generally in error, miſrepreſentation, or the difficulty of diſcriminating between Small-pox and other eruptions, no caſe having come to the knowledge of your Committee, duly authenticated by reſpectable and competent judges, of genuine Small-pox ſucceeding the regular Vaccine diſeaſe.

"The practice of Vaccination becomes every day more extended; and, when it is conſidered that the period at which it

came into general uſe in Ireland is to be reckoned from ſo late a date, your Committee is of opinion, that it has made already as rapid a progreſs as could be expected.

(Signed) " JAMES CLEGHORN.
" DANIEL MILLS.
" HUGH FERGUSON."

No. II.

Phyſicians Hall, Edinburgh Nov. 26th, 1807.

GENTLEMEN,

THE Royal College of Phyſicians of Edinburgh have but little opportunity themſelves of making obſervations on Vaccination, as that practice is entirely conducted by Surgeon Apothecaries, and other Medical Practitioners not of their College, and as the effects produced by it are ſo inconſiderable and ſlight, that the aid of a Phyſician is never required.

The College know that in Edinburgh it is univerſally approved of by the profeſſion, and by the higher and middle ranks of the community, and that it has been much more generally adopted by the lower orders of the people than ever the Inoculation for Small-pox was, and they believe the ſame to obtain all over Scotland.

With regard to any cauſes which have hitherto prevented its general adoption, they are acquainted with none, except the negligence or ignorance of parents among the common people, or their miſtaken ideas of the impropriety or criminality of being acceſſary to the production of any diſeaſe among their children, or the difficulty or impoſſibility, in ſome of our

country diſtricts of procuring Vaccine matter, or a proper perſon to inoculate.

The evidence in favour of Vaccination appeared to the Royal College of Phyſicians of Edinburgh ſo ſtrong and deciſive, that in May laſt, they ſpontaneouſly and unanimouſly elected Dr. Jenner an Honorary Fellow of their College;—a mark of diſtinction which they very rarely confer, and which they confine almoſt excluſively to Foreign Phyſicians of the firſt eminence.

They did this with a view to publiſh their opinion with regard to Vaccination, and in teſtimony of their conviction of the immenſe benefits which have been, and which will in future be derived to the world, from Inoculation for the Cow-pox, and as a mark of their ſenſe of Dr. Jenner's very great merits and ability in introducing and promoting this invaluable practice.

I have the honour to be, Gentlemen,

Your moſt obedient humble Servant,

TH. SPENS. C. R. M. Ed. Pr.

To the Royal College of Phyſicians of London.

No. III.

At a Special Court of Aſſiſtants of the Royal College of Surgeons, convened by order of the Maſter, and holden at the College on Tueſday the 17th day of March 1807;

Mr. Governor Lucas in the Chair:

Mr. Long, as Chairman of the Board of Curators, reported, That the Board are now ready to deliver their report on the ſubject of vaccination.

It was then moved, ſeconded, and Reſolved, That a Report from the Board of Curators, on the ſubject of vaccination, which was referred to their conſideration by the Court of Aſſiſtants, on the 21ſt day of November laſt, be now received.

Mr. Long then delivered to Mr. Governor Lucas (preſiding in the abſence of the Maſter) a Report from the Board of Curators.

It was then moved, ſeconded, and Reſolved, that the Report delivered by Mr. Long, be now read; and it was read accordingly, and is as follows:

To the Court of Aſſiſtants of the Royal College of Surgeons in London.

THE Report of the Board of Curators, on the ſubject of Vaccination, referred to them by the Court, on the 21ſt day of November 1806; made to the Court on the 17th of March, 1807.

THE Court of Aſſiſtants having received a Letter from the Royal College of Phyſicians of London, addreſſed to this College, ſtating, that His Majeſty had been graciouſly pleaſed, in compliance with an addreſs from the Honourable Houſe of Commons, to direct his Royal College of Phyſicians of London to inquire into the ſtate of Vaccination in the United Kingdom, to report their obſervations and opinion upon that practice, upon the evidence adduced in its ſupport, and upon the cauſes which have hitherto retarded its general adoption; that the College were then engaged in the inveſtigation of the ſeveral propoſitions thus referred to them, and requeſting this College to co-operate and communicate with them, in order that the report thereupon might be made as complete as poſſible.

And having, on the 21ſt day of November laſt, referred ſuch letter to the conſideration of the Board of Curators, with

authority to take ſuch ſteps reſpecting the contents thereof as they ſhould judge proper, and report their proceedings thereon, from time to time, to the Court:—The Board proceeded with all poſſible diſpatch to the conſideration of the ſubject.

The Board being of opinion that it would be proper to addreſs circular letters to the Members of this College, with a view of collecting evidence, they ſubmitted to the conſideration of the Court, holden on the 15th day of December laſt, the drafts of ſuch letter as appeared to them beſt calculated to anſwer that end; and the ſame having been approved by the Court, they cauſed copies thereof to be ſent to all the Members of the College in the United Kingdom, whoſe reſidence could be aſcertained, in the following form: *viz.*

"SIR,

The Royal College of Surgeons being deſirous to co-operate with the Royal College of Phyſicians of London, in obtaining information reſpecting vaccination, ſubmit to you the following Queſtions, to which the favour of your Anſwer is requeſted.

"By order of the Court of Aſſiſtants.

"OKEY BELFOUR, *Secretary.*"

Lincoln's-Inn Fields, Dec. 15th, 1806.

"1ſt. How many perſons have you vaccinated?

"2d. Have any of your patients had the ſmall-pox, after vaccination? In the caſe of every ſuch occurrence, at what period was the vaccine matter taken from the veſicle? How was it preſerved? How long before it was inſerted? What was the appearance of the inflammation? And what the interval between vaccination and the variolous eruption?

"3d. Have any bad effects occurred in your experience in conſequence of vaccination? And if ſo, what were they.

"4th. Is the practice of vaccination increaſing or decreaſing in your neighbourhood; if decreaſing, to what cauſe do you impute it?"

To ſuch letters the Board have received 426 anſwers; and the following are the reſults of their inveſtigation:

The number of perſons, ſtated in ſuch letters to have been vaccinated, is 164,381.

The number of caſes in which ſmall-pox had followed vaccination is 56.

The Board think it proper to remark under this head, that, in the enumeration of caſes in which ſmall-pox has ſucceeded vaccination, they have included none but thoſe in which the ſubject was vaccinated by the ſurgeon reporting the facts.

The bad conſequences which have ariſen from vaccination are, eruptions of the ſkin in 66 caſes, and inflammation of the arm in 24 inſtances, of which three proved fatal.

Vaccination, in the greater number of counties from which reports have been received, appears to be increaſing; it may be proper however to remark, that, in the Metropolis, it is on the decreaſe.

The principal reaſons aſſigned for decreaſe are, Imperfect vaccination; Inſtances of ſmall-pox after vaccination; Suppoſed bad conſequences; Publications againſt the practice; Popular prejudices.

And ſuch Report having been conſidered, it was moved, ſeconded, and

Reſolved, that the Report now read, be adopted by this Court, as the anſwer of the Court to the letter of the Royal College of Phyſicians, of the 23d of October laſt, on the ſubject of Vaccination.

Reſolved, That a copy of theſe Minutes and Reſolutions, ſigned by Mr. Governor Lucas (preſiding at this Court in the abſence of the Maſter) be tranſmitted by the Secretary to the Regiſter of the Royal College of Phyſicians.

(Signed) WM. LUCAS.

No. IV.

Edinburgh, March 3d, 1807.

SIR,

I mentioned in my former letter, that I would take the earlieſt opportunity of laying before the Royal College of Surgeons of Edinburgh, the communication with which the Royal College of Phyſicians of London had honoured them, on the 23d of October laſt:

I am now directed by the Royal College to ſend the following anſwer on that important ſubject.

The practice of vaccine inoculation, both in private and at the Vaccine Inſtitution eſtabliſhed here in 1801, is increaſing ſo rapidly, that for two or three years paſt, the ſmall-pox has been reckoned rather a rare occurrence, even amongſt the lower order of the inhabitants of this city, unleſs in ſome particular

quarters about twelve months ago, and, among the higher ranks of the inhabitants, the diſeaſe is unknown.

The Members of the Royal College of Surgeons have much pleaſure in reporting, That, as far as their experience goes, they have no doubt of the permanent ſecurity againſt the ſmall-pox which is produced by the conſtitutional affection of the cow-pox; and that ſuch has hitherto been their ſucceſs in vaccination, as alſo to gain for it the confidence of the public, inſomuch that they have not been required, for ſome years paſt, to inoculate any perſon with ſmall-pox who have not previouſly undergone the inoculation with the cow-pox.

The Members of the Royal College have met with no occurrence in their practice of cow-pox inoculation which could operate in their minds to its diſadvantage, and they beg leave particularly to notice, that they have ſeen no inſtance of obſtinate eruptions, or of new and dangerous diſeaſes, which they could attribute to the introduction among mankind of this mild preventive of the ſmall pox. The Royal College of Surgeons know of no cauſes which have hitherto retarded the adoption of vaccine inoculation here; on the contrary, the practice has become general within this city: and from many thouſand packets of vaccine matter having been ſent by the Members of the Royal College, and the Vaccine Inſtitution here, to all parts of the country, the Royal College have reaſon to believe that the practice has been as generally adopted throughout this part of the United Kingdom as could have been expected from the diſtance of ſome parts of the country from proper medical aſſiſtance, and other circumſtances of that nature.

I have the honour to be, Sir,

Your moſt obedient ſervant,

WM. FARQUHARSON.

Preſident of the Royal College and Incorporation of Surgeons of Edinburgh.

No. V.

Royal College of Surgeons in Ireland,

Dublin, Feb. 4th, 1807.

Sir,

I am directed to tranſmit to you the encloſed Report of a Committee of the College of Surgeons in Ireland, to whom was referred a letter from the Royal College of Phyſicians in London, relative to the preſent ſtate of vaccination in this part of the United Kingdom; and to ſtate, that the College of Surgeons will be highly gratified by more frequent opportunities of correſponding with the Engliſh College of Phyſicians on any ſubject which may conduce to the advancement of Science, and the welfare of the public.

I have the honour to be, Sir,

Your moſt obedient humble Servant,

JAMES HENTHORN, *Sec.*

At a meeeting of the Royal College of Surgeons in Ireland, holden at their Theatre, on Tueſday the 13th day of January 1807.

Francis M'Evoy, Esq. Preſident.

Mr. Johnſon reported from the committee, to whom was referred a letter from the College of Phyſicians, London, relative to the preſent ſtate of Vaccination in the United Kingdom, &c. &c. That they met, and came to the following Reſolutions:

That it appears to this Committee, That Inoculation with Vaccine Infection is now very generally adopted by the ſurgical practitioners in this part of the United Kingdom, as a preventive of Small-pox.

That it appears to this Committee, That from the 25th day of March 1800, to the 25th of November 1806, 11,504 perſons have been inoculated with vaccine infection at the diſpenſary for infant poor, and 2,831 at the cow-pox inſtitution, making a total of 14,335, excluſive of the number inoculated at hoſpitals and other places, where no regiſtry is made and preſerved.

That it is the opinion of this Committee, That the cow-pox has been found to be a mild diſeaſe, and rarely attended with danger, or any alarming ſymptom, and that the few caſes of ſmall-pox which have occurred in this country, after ſuppoſed vaccination, have been ſatisfactorily proved to have ariſen from accidental circumſtances, and cannot be attributed to the want of efficacy in the genuine vaccine infection as a preventive of ſmall-pox.

That it is the opinion of this Committee, that the cauſes which have hitherto retarded the more general adoption of vaccination in Ireland, have, in a great meaſure, proceeded from the prejudices of the lower claſſes of the people, and the intereſt of ſome irregular practitioners.

To which Report the College agreed.*

Extract from the Minutes.

JAMES HENTHORN, *Sec.*

* In addition to the above highly ſatisfactory documents, it may be proper to ſtate, that the Engliſh Houſe of Commons, have juſt voted £20,000 additional to Dr. Jenner, as the Diſcoverer of Vaccination.—*E.*

Chriſtie, on Vaccination at Ceylon.

THE number of inoculations in the vicinity of Columbo, has been greater in June than for many months paſt, in conſequence of the appearance of ſmall-pox, which broke out in the Bazar, and ſeveral other parts of this diſtrict in May laſt. I have not been able very diſtinctly to trace its origin, but as we have enjoyed an exemption from its influence here for nearly three years, and as it was imported from the coaſt to Aripo in February laſt, it ſeems moſt probable that the infection was brought from thence on the breaking up of the fiſhery in the end of April, more particularly as it is aſcertained that patients were landed from Aripo with ſmall-pox, both at Calpentyn and Chilow.

Although the diſeaſe appeared in ſeveral parts of this diſtrict at the ſame time, I am happy to ſay, that by means of the precautions which have been taken, its propagation to any conſiderable extent has been prevented. As ſoon as the exiſtence of ſmall-pox in any village or ſtreet was aſcertained, Vaccinators were immediately ſent to the ſpot, to urge the people in the neighbourhood to ſubmit to immediate inoculation; and when it was practicable, the patients infected with ſmall-pox were removed to a ſecluded ſituation, near the Leper's Hoſpital, where every aid was afforded them.

I am happy to ſay, that for a great length of time there has been almoſt no prejudice againſt vaccination in this iſland, and that all the more intelligent inhabitants have the fulleſt confidence in it, as a certain preventive againſt ſmall-pox; but as ſome futile attempts have lately been made in Europe, to ſhake the confidence of the public in the efficacy of this ineſtimable

diſcovery, particularly by inculcating an idea that the conſtitution is not permanently ſhielded by its influence, but that, at the end of three years, a freſh inoculation may perhaps be neceſſary, it must prove ſatisfactory and I hope convincing to mention, that amongſt the many thouſands who were inoculated in 1802, and the ſucceeding years, there is not a ſuſpicion that any one of them has been affected with ſmall-pox, though many of them have been expoſed in various ways to the moſt virulent contagion.

The exiſtence of ſmall-pox at the preſent period, has enabled us to put ſome of our patients to the teſt after the expiration of nearly four years from the time of their vaccination. Mr. Morton accordingly, in May laſt, when acting as ſuperintendant of vaccination in this diſtrict, inoculated with active variolous virus two patients, Katto, a ſlave girl, and Johannes Fernando, a Cingaleſe, who had paſſed through the cow-pox in Sep. 1802; and many others have, by my directions, been expoſed to the infection, without any effect but ſlight local inflammation on the inoculated part.

I have alſo, with the ſame event, inoculated with and expoſed to ſmall-pox, ſeveral of the patients vaccinated laſt month, particularly Carolus Rhode and Jonan Tedoe, reſiding at Moolwal, with a view to prove, that our infection, though it has paſſed on this iſland alone through a regular ſucceſſion of at leaſt two hundred patients, without any renewal from the cow, ſtill poſſeſſes, unimpaired, its genuine qualities and preventive virtues.

The following inſtance exemplifies in ſo ſtriking a manner theſe facts, that I cannot reſiſt the pleaſure of relating it.—On the morning of the 11th inſtant, when viſiting with Dr. High, ſtaff ſurgeon, the ſmall-pox patients near the Leper's Hoſpital, I was informed that a boy in one of the neighbour-

ing houſes was affected with ſmall-pox, which ſurpriſed me much, as I had been informed that, agreeably to my inſtructions, every perſon in the village, who had not had ſmall-pox, had been vaccinated. We immediately repaired to the houſe, where we found a boy, named Gorkanize Savery, labouring under ſmall-pox on the fourth day of the eruption. On inquiry, I found he had not been inoculated, becauſe he and his friends ſaid, that four years before he had paſſed through an eruptive diſeaſe, believed to have been the ſmall-pox. The family conſiſted of ſeven other perſons, three of whom were aged, and had paſſed through the ſmall-pox; two had been vaccinated in 1802, and the remaining two in May, 1806. The whole of them continued, by my direction, to live in the houſe with and attend on the boy with ſmall-pox, who is now recovered, without having communicated the diſeaſe to any of them.

In a former letter I took occaſion to mention, that, agreeably to the moſt certain information, at leaſt one-third of all the inhabitants of this iſland, who were affected with natural ſmall-pox, died. The proportion of deaths on the preſent occaſion, juſtifies that calculation, as out of twenty patients who have been removed to the Hoſpital, and regularly treated, ſeven have died; and I have reaſon to believe, that the mortality amongſt the patients, who remained in their own houſes has been ſtill greater.

The number of vaccinated patients, reported to me ſince the introduction of cow-pox in Ceylon in Auguſt, 1802, amounted on the 30th of June, 1806, to 47,523; and if, agreeably to a moderate calculation which I formerly made, not more than one-half of the inhabitants of this iſland eſcaped natural ſmall-pox, and of the half that had it, one-third died, we may, without over-rating the benefits of vaccination, fairly eſtimate, that of the 47,523 patients who have been inoculated in the

iſland, one-ſixth of the whole, or 7920, would have otherwiſe died of the ſmall-pox, which, previous to the introduction of vaccination, was almoſt every year epidemic at Columbo, and many other parts of the iſland.

I ſhall conclude with mentioning one fact, which may prove intereſting to your medical readers, and, as far as I know, is new in the hiſtory of vaccination. It is, that Peter Baro, a boy of European parents, who has long been confined with confirmed leproſy, and whoſe features are much disfigured with that diſeaſe, was vaccinated on the 4th of June, 1806, and paſſed through the diſeaſe regularly.

It has with juſtice I think been ſuppoſed, that pſora and other diſeaſes of the ſkin diminiſhed the ſuſceptibility of cow-pox; and yet we find, in the preſent inſtance, a moſt inveterate diſeaſe did not prevent its taking effect, which ought to encourage us, in the event of the prevalence of ſmall-pox, not to be deterred by the preſence of other diſeaſes, from giving vaccination a trial; for, had it not been practiſed with this boy, there is reaſon to apprehend that he might have fallen a martyr to ſmall-pox, which prevailed in his vicinity.

Abstract of the Returns of Patients inoculated for the Vaccine Disease in different Districts of Ceylon, during the month of June, 1806.

District.	Numb. Inoculated.	Diſcharged with Certific.	Failed.	Remain.
Columbo	1018	679	230	109
Caltura	111	108		3
Galle	248	88	1	159
Matura	213	122	27	64
Tangalle	200	143	10	47
Hambangtotte	60	26	4	30
Batticaloa	57	30	12	15
Trincomallie	41	21	6	14
Mullativo	36	25		11
Jaffna	276	214		62
Manar	117	65	14	38
Calpetyn	24	23	1	
Chilou	49	11	31	7
Negumbo	40	26	4	10
Total	2490	1581	340	569

Note. The proportion of failures is greater than usual in the Columbo district, in consequence of several people having been inoculated for the sake of security, who were uncertain as to their having had small-pox.

Med. and Phys. Jour.

I ſhall continue vaccinating through the ſummer: and in the autumn ſhall be under the neceſſity of inoculating ſeveral families for the ſmall-pox, or throw buſineſs into an opponents hands,* (both diſagreeable) as they are determined not to riſque the cow-pock—at the ſame time ſhall make many experiments on kine-pock patients, which makes me more inquiſitive.

If there is any new treatiſe on this ſubject, that contains information, not to be found in that publiſhed by yourſelf, nor in Dr. Jenner's with plates, you will pleaſe to forward it, if convenient.—I have vaccinated more than all the reſt of the phyſicians in this country, and wiſh to obtain all the information neceſſary, to prevent my patients being deceived.

Your obedient Servant,

WILLIAM JONES.

Dr. JOHN REDMAN COXE.

P. S. My kine-pock patients frequently break out with the diſeaſe, and ſometimes have pock that progreſs regularly through all its ſtages, even when the indiſpoſition has been trifling,—ſcarcely perceptible.

Extract from RING *on Vaccination.*

"IN the ſame work (the Madras Gazette) is a letter from Mr. Jukes, dated Buſhire, March the 13th, 1805, giving an account of his introducing the practice into that part of the Perſian dominions. This, he informs us, was done by means of equine matter, ſent from Vienna; which produced a veſicle ſimilar to the cow-pox, of the moſt diſtinct and regular kind.

* "We ſee the right, and we apppove it too
Condemn the wrong, and yet the wrong purſue."—*Ed.*

"From the haſty manner in which he travelled through the country, he could not expect to be very ſucceſsful in diffuſing the new inoculation; and he moreover tells us, that they do not know the Perſians, who ſuppoſe they have any notions of the public good; or that any thing, except pleaſure, or money, is capable of engroſſing their attention.

"Mr. Jukes, however, at firſt met with ſome encouragement; and began to indulge the pleaſing hope of rapidly diffuſing the practice through the whole empire. Numbers of people flocked to his houſe, in order to be inoculated; and he had already began to circulate pamphlets of inſtruction in the Perſian language, as well as virus; but the jealouſy of the Shaikh was awakened, and he was obliged to deſiſt, receiving only the moſt pointed inſult, as his reward. The pretence for rejecting the bleſſing of vaccination was, that it had ſprung from the impure hand of an unbeliever!

"This valuable publication of Dr. Anderſon concludes with a letter from a native; in which he expreſſes his grateful acknowledgements for the advantages which he had derived from vaccination, in his own family; and declares, that ſince the operation, his children are much improved in their health.

"Four hundred and twenty-nine thouſand, eight hundred and twenty-one, had been ſucceſsfully vaccinated in the Preſidency of Madras, and its dependencies, between the beginning of September, 1802, and the end of May, 1805, at the expenſe of 55,865 ſtar-pagodas; and two thouſand, eight hundred and ſixteen of them had been ſubſequently inoculated for the ſmall-pox, which they all reſiſted.—This is a ſufficient refutation of all the calumnies and falſehoods, which are daily circulated with ſo much induſtry, and effrontery, here at home.

I am, &c.

JOHN RING."

Med. and Phys. Jour.

The following Extract of a Letter from Dr. Moyan, dated, Pottſgrove, May 8th, 1806, ſeems alike to advance the Vaccine—and to demonſtrate that the ſecond Attack of Small-pox is not ſo rare as is uſually ſuppoſed, or, that it is not ſo readily diſcriminated from Chicken-pox, as the Vaccine is from all other diſeaſes.

"AN event came to my knowledge laſt week which confirms the prophylactic nature of the Cow-pox as much I think, as a ſolitary inſtance could. Elizabeth Stincy was inocculated by Dr. Baum about ſixteen years ago in Birdſborough. She was then between 3 and 4 years old. Her mother aſſured me that ſhe had about 40 puſtules of what appeared to be the ſmall-pox. She now lives at the Trap married to Mr. Howard, and has a child ſucking at the breaſt; ſhe took the ſmall-pox in the natural way and was once in conſequence of it likely to die, but ſhe now has got over it, and recruits her ſtrength as is common for people after that malady. Her child now at her breaſt had been vaccinated and is not at all affected with the ſmall-pox.

"The mother of this woman that has taken the ſmall-pox, lately informed me that about eighteen more had taken the ſmall pox, of thoſe inoculated by Dr. Baum during the ſame winter; and alſo that they all had the ſmall-pox very light when they were inoculated. Were they all inoculated with the Chicken-pox, inſtead of the ſmall-pox? Dr. Smith, who attended the forementioned woman, and who lives at the Trap, I am told thinks ſo.

JOHN MOYAN."

Circular Queries of the London Medical Society, on the Influenza.

London, May 1803.

SIR,

THE Medical Society of London, convinced that every practitioner will conſider the late Epidemical diſorder, commonly termed the Influenza, as an object peculiarly worthy of inveſtigation, and wiſhing to collect for publication a complete hiſtory of the diſeaſe, earneſtly requeſt your anſwer to all or any of the ſubjoined queſtions.

1. Has any Epidemical Diſorder appeared in your neighbourhood during the preſent ſpring, which differed from the uſual diſeaſes of the ſeaſon?

2. On what day did it firſt ſhew itſelf?

3. When was it at its greateſt height?

4. When did it diſappear?

5. What were its ſymptoms, particularly the moſt urgent?

6. Did they vary much in different individuals? were they ſimilar in members of the ſame family, in thoſe of equal age, of ſimilar conſtitutions, and of different ſexes?

7. Has it been fatal when apparently unconnected with other diſeaſes?

8. What proportion of fatality occurred?

9. What ages, claſſes, or conſtitutions, were moſt obnoxious to the diſeaſe, and felt it moſt ſeverely or fatally?

10. Was the proportion of males or females greateſt?

11. What did you find the beſt mode of treatment?

12. What effects followed bleeding, general or local, emetics, purgatives, opiates, ſudorifics, bliſters, or other remedies; and in what circumſtances were they employed?

13 What was the proper diet?

14. What temperature was the moſt beneficial?

15. What was the uſual mode of its termination?

16. Were relapſes frequent?

17. Were the ſymptoms of relapſes ſimilar to the original attack, and were they more or leſs ſevere?

18. Did convaleſcents recover ſpeedily?

19. In what ſtate were they left by the diſeaſe?

20. What was the beſt treatment during convaleſcence?

21. What were the concomitant diſorders which appeared to combine with the epidemic, and were they ſevere and fatal?

22. Has the preſent Influenza appeared to you to be contagious or not, and on what facts did you ground your opinion?

23. In Manufactories, Schools, Public Inſtitutions, and other collections of people, how did it appear, and what was its progreſs?

24. Were a number of perſons frequently affected in the ſame houſe, at the ſame period, or in ſucceſſion; and at what intervals?

25. What are the ſites, and other local circumſtances of the places in which you have made your obſervations?

26. To what winds are they particularly expoſed?

27 What places in your neighbourhood were affected with the diſeaſe previous to that in which you reſide, and what immediately afterwards; and has the progreſs of the epidemic in theſe caſes appeared to be in any degree regulated by intercourſe?

28. What meteorological remarks have you made previouſly to the riſe, and during the progreſs and decline of the epidemic?

29. Have you remarked whether the progreſs of the diſeaſe has in any degree followed the direction of the wind; and if this has appeared to be the caſe, can any deviations from ſuch uniformity of progreſs be accounted for from any remarkable intercourſe between different places?

30. Did you ſee any of the former Influenzas, and what are the analogies of the preſent with them?

31. Previouſly to, or during the prevalence of the diſeaſe, did you notice any epizoötic complaint?

32. What other remarks have you made on this ſubject, which are not included under the preſent queries?

The Society being deſirous to aſcertain whether the epidemic be contagious or not, and to collect ſuch meteorological obſervations as will throw light on the natural, as well as the medical hiſtory of the diſeaſe, particularly requeſt your attention to theſe objects.

They do not mean to limit the anſwers of their Correſpondents to their own obſervations, but will receive with pleaſure any information relating to the above queſtions, which their correſponding members may have procured, and which they conceive authentic and valuable.*

Signed by order of the Society.

Purification of Oil.

M. Curaudeau has given two methods for purifying oil: the firſt is, " to one hundred parts of rape-oil, one part of ſulphuric acid is to be added, diluted with ſix times its weight of water, the mixture ſhould be ſtrongly agitated, and as ſoon as this is completely finiſhed, it is left till the oil becomes clear, and when it is perfectly clear, the purification is effected," The action of the ſulphuric acid in this proceſs, conſiſts in depriving the oil of all its humidity, though it is itſelf mixed with water, and in ſeparating from it a ſubſtance, the preſence of which diminiſhes the energy of the combuſtion of the oil, covers the wick with charcoal, and produces much ſmoke; on the abſtraction of theſe principles, which are foreign to the oil, depends its quality of giving a good light. The ſecond method is, " to one hundred parts of rape-ſeed oil, ten parts of water are to be put, to which has been added one part of wheaten flour; the mixture is to be well agitated, and then to

* Though theſe Queries are dated ſo far back, it is preſumed they may with propriety appear at this period, as a means of collecting information for publication in the Muſeum, from all parts of America, on the late extenſive Epidemic; and with this view the Editor ſolicits communications from his Medical Brethren of America.

be heated until all the water has been evaporated, or till the oil has ceaſed to have any union with the ſubſtances which it held in ſuſpenſion," M. Curaudeau was led to this experiment from what is obſervable in the ſauce called melted butter, which when too much boiled, is ſeparated into the thick part that occupies the bottom of the veſſel, while the other part is clear, and floats above. The lower ſubſtance is the caſeous part of the butter united with the flower that has been added, and which the action of the fire has ſeparated from the oil. The upper ſubſtance is the butter, deprived of all foreign matter, and is in fact purified butter.

Monthly Review.

Toads incloſed under ground.

At Headon, in Holderneſs, on the 6th of July 1804, three fine fat toads, and a large worm, covered up in an earthern pot, were buried two feet within the ground, and the earth rammed hard upon them. In June 1805, the toads were taken up, but the worm did not appear. The toads were in perfect health and ſtrength, and in good ſpirits, though apparently ſomewhat reduced in ſize.

Month. Mag.

Other Experiments on the Same.

" In our paper of the 17th of January, we mentioned the circumſtance of a toad having ſubſiſted 15 months, con-

fined in a baſon, and depoſited at ſome depth below the ſurface of the earth, and that on the 8th of that month, it had been re-committed in like manner, to the ground, by Mr. John Walker of Baſſenthwayte Chapie. On the 25th of laſt month, (July) his curioſity prompted him to ſee whether the reptile was ſtill living; but upon uncovering the baſon, there was nothing to be ſeen, but ſome bones, and a little ſlimy ſubſtance."

Month. Mag.

Subſtitute for Salt of Sorrel.

The following is ſaid to be a good ſubſtitute for Salt of Sorrel, for removing ink ſpots and iron moulds. Take 6 parts of chryſtals of tartar in powder; 3 parts of alum pulveriſed, and let them be mixed, and uſed in the ſame manner as Salt of Sorrel.

Month. Mag.

Receipt for an excellent Glue.

Fiſh glue three parts, well pounded and ſoaked in vinegar; common glue two parts, ſoaked in water; gum arabic one part; add a little ſugar candy if you wiſh to have it ſweet, (but of no other uſe) boil the whole together after having each ingredient ſeparately ſoaked except the ſugar, and when it has the conſiſtence of common glue, pour it into a glazed earthen or china plate, previouſly rubbed with a little butter. When it is dried to the conſiſtence of a thick jelly, then cut it in long pieces, and let it dry thoroughly in the ſun for uſe.

On the Period of Geſtation in Animals.

The exact period of geſtation in different animals has not been aſcertained; nor whether it is always the ſame, or liable to variations, in different individuals of the ſame ſpecies. The memoirs of the National Inſtitute of France contain an intereſting communication on this ſubject by M. *Teſſier*, whoſe obſervations have led him to the following reſults.

I. COWS.

One hundred and ſixty cows were obſerved.

14 calved from the 241ſt to the 266th day; that is, from 8 months and 1 day, to 8 months and 26 days.
3 —— on the 270th day.
50 —— from the 270th to the 280th day.
68 —— from the 280th to the 290th day.
20 —— on the 300th day.
5 —— on the 308th day.

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Conſequently there were 67 days between the two extremes.

II. MARES.

One hundred and two mares were obſerved.

3 foaled on the 311th day.
1 —— on the 314th day.
1 —— on the 325th day.
1 —— on the 326th day.
2 —— on the 330th day.
47 —— from the 340th to the 350th day.
25 —— from the 350th to the 360th day.
21 —— from the 360th to the 377th day.
1 —— on the 394th day.

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This gives a latitude in the time of geſtation of 83 days; and the following obſervation may be made reſpecting cows and mares, namely, that more of the firſt brought forth before the completion of the ninth month, than of the ſecond before that of the eleventh.

III. SOWS.

Of theſe only fifteen were obſerved.

1 brought forth young, which lived, on the 109th day; that is, 3 months and 19 days.
10 ——— from the 110th to the 120th day.
3 ——— on the 121ſt day.
1 ——— on the 122d day.
1 ——— on the 123d day.

15

Conſequently, the difference between the two extremes was 14 days.

IV. RABBITS.

One hundred and thirty-nine were obſerved, during the courſe of three years.

1 brought forth on the 26th day.
2 ——— on the 27th day.
3 ——— on the 28th day.
53 ——— on the 29th day.
50 ——— on the 30th day.
21 ——— on the 31ſt day.
9 ——— on the 33d day.

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The difference between the two extremes on theſe animals was ſeven days.

Med. and Chir. Rev.

CORRESPONDENCE.

S. Carolina, January, 1807.

SIR.

AS the London Medical and Phyſical Journal is in the hands of but few practitioners in this Country; the illiberal ſtrictures of a Dr. Reid, in his "obſervations on the medical treatment of General Waſhington's laſt illneſs," may probably have never reached the eye of the reſpectable and experienced practitioners who attended that much lamented character. As thoſe ſtrictures have circulated in every place, to which the Med. and Phys. Journal has found admittance, it would ſeem but right to give the Gentlemen an opportunity to anſwer the remarks alluded to; which beyond doubt they are fully capable of doing, and of reſcuing their names from the opprobrium which Dr. Reid has thrown upon them. With this view, I take the liberty of requeſting you to give a place in your Muſeum to the report of his laſt illneſs, &c.; and to the obſervations which it has given riſe to. Our country may conſider it highly proper at a future day; and it cannot be done ſo effectually by any, as by thoſe who attended at that period, nor at any time better than the preſent, when the circumſtances muſt be yet alive within the recollection of the practitioners themſelves.

I am Sir,
With reſpect,
Your well wiſher,
URBANITAS.*

DR. J. R. COXE.

* The Editor muſt apologiſe for the delay of the preſent correſpondence, from having unfortunately miſlaid it, and having only within a ſhort time diſcovered it. The pieces alluded to are introduced with much ſatisfaction, in hopes that the attack of Dr. Reid, on a point, which he could be but imperfectly maſter of, (as he in part admits) may meet with that candid notice it merits

From "THE TIMES," *a Newſpaper printed in Alexandria (Virginia), dated in December*, 1799.

Meſſrs. J. & D. Weſtcott,

Preſuming that ſome account of the late illneſs and death of General WASHINGTON will be generally intereſting, and particularly ſo to the profeſſors and practitioners of medicine throughout America, we requeſt you to publiſh the following ſtatement.

JAMES CRAIK,
ELISHA C. DICK.

SOME time in the night of Friday the 13th inſtant, having been expoſed to rain on the preceding day, General Waſhington was attacked with an inflammatory affection of the upper part of the wine-pipe, called in technical language, *cynanche trachealis*. The diſeaſe commenced with a violent ague, accompanied with ſome pain in the upper and fore part of the throat, a ſenſe of ſtricture in the ſame part, a cough, and a difficult rather than a painful deglutition, which were ſoon ſucceeded by fever and a quick and laborious reſpiration. The neceſſity of blood-letting ſuggeſting itſelf to the General, he procured a bleeder in the neighbourhood, who took from his arm, in the night, twelve or fourteen ounces of blood: he would not by any means be prevailed upon by the family to ſend for the attending phyſician till the following morning, who arrived at Mount Vernon at about eleven o'clock on Saturday. Diſcovering the caſe to be highly alarming, and foreſeeing the fatal tendency of the diſeaſe, two conſulting phyſicians were immediately ſent for, who arrived, one at half after three, the other at four o'clock in the afternoon. In the interim were employed two copious bleedings; a bliſter was applied to the part affected, two moderate doſes of calomel were given, and an injection was adminiſtered, which operated on the lower

inteſtines—but all without any perceptible advantage; the reſpiration becoming ſtill more difficult and diſtreſſing.—Upon the arrival of the firſt of the conſulting phyſicians, it was agreed, as there were yet no ſigns of accumulation in the bronchial veſſels of the lungs, to try the reſult of another bleeding, when about thirty-two ounces of blood were drawn, without the ſmalleſt apparent alleviation of the diſeaſe. Vapours of vinegar and water were frequently inhaled, ten grains of calomel were given, ſucceeded by repeated doſes of emetic tartar, amounting, in all, to five or ſix grains, with no other effect than a copious diſcharge from the bowels. The powers of life ſeemed now manifeſtly yielding to the force of the diſorder. Bliſters were applied to the extremities, together with a cataplaſm of bran and vinegar to the throat. Speaking, which was painful from the beginning, now became almoſt impracticable; reſpiration grew more and more contracted and imperfect, till half after eleven o'clock on Saturday night, when, retaining the full poſſeſſion of his intellect, he expired without a ſtruggle.

He was fully impreſſed at the beginning of his complaint, as well as through every ſucceeding ſtage of it, that its concluſion would be mortal, ſubmitting to the ſeveral exertions made for his recovery rather as a duty than from any expectation of their efficacy. He conſidered the operations of death upon his ſyſtem as coeval with the diſeaſe; and ſeveral hours before his deceaſe, after repeated efforts to be underſtood, ſucceeded in expreſſing a deſire that he might be permitted to die without interruption.

During the ſhort period of his illneſs he economized his time in the arrangement of ſuch few concerns as required his attention, with the utmoſt ſerenity, and anticipated his ap-

proaching diſſolution with every demonſtration of that equanimity for which his whole life had been ſo uniformly and ſingularly conſpicuous.

JAMES CRAIK,
Attending Phyſician.
ELISHA C. DICK.
Conſulting Phyſician.

The ſignature of Dr. Guſtavus Brown, of Port-Tobacco, who attended as conſulting phyſician, on account of the remoteneſs of his reſidence from the place, has not been procured to the foregoing ſtatement.

Med. Repoſitory, Vol. 3d.

Obſervations on the Medical Treatment of General Waſhington's laſt Illneſs. *By* JOHN REID, M. D. Phyſician of the Finſbury Diſpentary, &c.

IN reading the official report of the death of General Waſhington, as ſtated in the news-papers, &c. I ſhould imagine, there were few medical perſons who did not feel aſtoniſhment at the very extraordinary manner in which that great man was treated by his phyſicians, during his laſt and fatal indiſpoſition.

Some time in the night of the 13th of December, it is ſaid, that the General was ſeized by a diſeaſe, called the Cynanche Trachealis.

During the ſame night, he ſent for a bleeder, who took from him twelve or fourteen ounces of blood.

The next morning, a phyſician was ſent for, who arrived at Mount Vernon, at eleven o'clock; when, imagining danger in the caſe, he adviſed the calling in of two conſulting phyſicians.

In the interval, however, he thought proper to employ, in ſpite of the twelve or fourteen ounces that had already been expended, two copious bleedings. Now, when we conſider that theſe are called copious, and the other is not noticed as ſuch, and alſo the indifference with which a future moſt copious bleeding is afterwards mentioned, *we may preſume*, that each of theſe was twenty-five, or twenty, ounces at leaſt.

After this, "two moderate doſes of calomel were adminiſtered." I know not exactly what a moderate American doſe of calomel may be; but if, as it is fair to preſume, it be in proportion to the bleedings, we may conclude, that it was at leaſt very conſiderable.

Upon the arrival of the firſt of the conſulting phyſicians, it was agreed, that as there were no ſigns of accumulation in the bronchial veſſels of the lungs, they ſhould try another bleeding.

Now this appears to be perfectly inexplicable.

As there were at preſent, no ſigns of accumulation in the bronchial veſſels of the lungs, they were driven to another bleeding. Hence, it would ſeem, that this laſt bleeding was to *produce* an accumulation in the bronchial veſſels of the lungs. There was great difficulty of breathing, great inflammation; but as there was, as yet, no accumulation in the lungs, they were determined to induce that alſo; and, as a likely mean of inducing it, had recourſe to a moſt extravagant effuſion of blood. This is not an unfair interpretation of their words; but it could not have been their real meaning: their real meaning it is impoſſible to diſcover. In addition to all the previous veneſections, thirty-two ounces are now drawn! The medical

reader will not be ſurpriſed to find that this was unattended by any apparent alleviation of the diſeaſe.

In the next place, vapors of vinegar and water are frequently inhaled. Two doſes of calomel were already given; but this is not deemed ſufficient, ten grains of calomel are added: Nor is even this ſufficient; repeated doſes of emetic tartar, amounting, in all, to five or ſix grains, are next adminiſtered. It is ſaid, "the powers of life now ſeemed to yield to the force of the diſorder." To many it may appear, that the yielding of the vital principle, in theſe circumſtances, was not *altogether* owing to the force of the diſorder.

The patient, lying in this feeble and nearly exhauſted ſtate, is to be ſtill farther tormented. Bliſters are next applied to his extremities, together with a cataplaſm of bran and vinegar to his throat.

It is obſerved, that "ſpeaking, which was painful from the beginning, now became ſcarcely practicable." When we reflect upon that extreme degree of weakneſs to which the patient muſt, by this time, have been reduced, and that he had both a bliſter and a cataplaſm of bran and vinegar at his throat, can we wonder that ſpeaking would be ſcarcely practicable? Reſpiration grew more and more contracted and imperfect until after eleven o'clock on the Saturday night, when he expired without a ſtruggle.

Think of a man being, within the brief ſpace of little more than twelve hours, deprived of eighty or perhaps ninety ounces of blood; afterwards ſwallowing two moderate American doſes of calomel, which were accompanied by an injection; then five grains of calomel, and five or ſix grains of emetic tartar; vapors of vinegar and water frequently inhaled; bliſters applied to his extremities; a cataplaſm of bran and vinegar to his throat, upon which a bliſter had been already affixed: Is it ſurpriſing that, when thus treated, the afflicted General, after various ineffectual ſtruggles for utterance, at length articulated a deſire that he might be allowed to die without interruption!

To have reſiſted the fatal operation of ſuch Herculean remedies, one ſhould imagine that this venerable old man ought at leaſt to have retained the vigor of his earlieſt youth.

A Britiſh phyſician *may be deemed not competent to aſcertain the propriety of trans-atlantic practice;* the current of blood, in the inhabitants of the new world, may bear ſome proportion to the current of its rivers; in that caſe, the medical treatment ought likewiſe to be conducted on a larger ſcale.

But this is a ſubject not proper for levity; it is a ſerious and ſolemn ſubject; and it is on that account that I have been induced to make the few preceding obſervations.

J. REID.

London, April 21, 1800.

CORRESPONDENCE.

SIR,

HAVING had occaſion, in conſequence of the extraordinary commendations beſtowed on a late work by Dr. Thomas Ewell, entitled "Plain Diſcourſes on the laws and properties of Matter," &c. &c. in a review of it by the Editors of the New-York Medical Repoſitory, to look at the work itſelf, under an impreſſion of finding it poſſeſs ſuperlative merit; I cannot but avow my extreme diſappointment in peruſing it; for ſo far from being an original production, the author does not heſitate to avow his obligations to a variety of authors; the quotations from whom, to all appearance form three-fourths of a bulky volume, of 6 or 700 pages octavo, and are the materials of chief value in the work. This mode of making a book, though very convenient to an author, is certainly not ſo to thoſe purchaſers, who already poſſeſs the original works from whence taken; and to whom it may be expedient to conſult œconomy. The author, I am informed, is a very young man, who, within theſe two or three yeats, took his medical degree in the Univerſity of Pennſylvania; and as it is

probable his purſuits, in qualifying himſelf for that important point, fully occupied his time; it is by no means unfair to preſume, that his own experience on the ſubjects of which he treats could not have been very extenſive. This, though no argument againſt the writing of a book, would have been a good one in favour of delay in publication, until his own experience might have confirmed, or overthrown his own, or the opinions of others. I cannot, therefore, but wiſh he had laid it aſide for reviſion, that time might have given him an opportunity of ſaying more from himſelf, and leſs from others. *Nonum prematur in annum.*

But what has chiefly occaſioned theſe remarks, is the late opportunity I have had of peruſing a copious review of the ſame work in the third volume of the Boſton Anthology; a review ſo totally unlike the former, that I am unable to account for two perſons, ſetting down with the ſame object, regarding the work in ſo completely different a light; and, although I muſt confeſs my conviction of the juſtice of the latter, I would fain ſee them both reconciled.

This laſt named review is recommended to his candid attention, as it may prove uſeful to the future publications, which I perceive he has in contemplation.

PHILO.

New Jerſey, Auguſt, 1807.

☞ WE beg permiſſion here, a ſecond time, in conjunction with the Editors of the New York Medical Repoſitory, to enter our proteſt, againſt the omiſſion of the London Medical and Phyſical Journal, in noticing the ſources of their ſelection, when taken from our American periodical works. In No. 100 of that work, no leſs than 15 pages are taken up with three caſes from the Medical Muſeum, for which no acknowledgement is made—Nay! even ſome notes and modes of expreſſion which might have diſcriminated the ſource, are entirely omitted. We are of opinion with the Editors of the Medical Repoſitory, that "the rights of *meum* and *tuum* in literature and ſcience, although it may not be poſſible to guard them ſo effectually as thoſe of other kinds of property, are certainly entitled to regard"—and we truſt the candour of the Editors of the London Medical and Phyſical Journal will influence their conduct in future.

MEDICAL AND PHILOSOPHICAL REGISTER.

FOREIGN AND DOMESTIC.

*Bardſley's experiments with the White Oxide of Biſmuth.**

DR. BARDSLEY next gives us the reſult of his experience with the *White Oxide of Biſmuth*, as a remedy in certain dyſpeptic complaints. His trials entirely confirm the character beſtowed upon it by Dr. Marcet and others. As this medicine is only of late introduction, and its medical properties are as yet but little known, the teſtimony here given in its favour merits the attention of practitioners. It is proper to obſerve that the common *magiſtery of biſmuth* commonly ſold in the ſhops is very far from being in a pure ſtate: a very pure white oxide of this metal is prepared and ſold by Allen and Howard, of Lombard-ſtreet. The oxide of biſmuth appears to be a mild as well as efficacious remedy; for in no inſtance has it been productive of any diſagreeable effects. The following caſe affords a ſtriking inſtance of the benefit that may be expected from this medicine.

"Aug. 18, 1806. Hugh M'Guinnis, *æt.* 28, weaver. On account of the length and ſeverity of this patient's diſorder,

* Medical reports of caſes and experiments, with obſervations; chiefly derived from hoſpital practice, &c. &c. By S. A. Bardſley, M. D. &c.

he was admitted *into the Infirmary.* His chief complaint ariſes from a heavy preſſing pain at his ſtomach, attended with a ſenſe of conſtriction of the œſophagus, and eructations of an acid taſte and flavour, chiefly after meals. Sometimes the matter brought up is ſo intenſely acid, as to bliſter the palate and lips. He is frequently awakened in the night, with a ſpaſmodic affection of the ſtomach, accompanied with a violent pulſation about the umbilical region. The animal functions are conſiderably deranged. He makes water with difficulty at times; and his bowels are alternately looſe and coſtive. His appetite is uncertain, ſometimes decayed, and ſometimes greedy; but even its moderate gratification is ſure to be attended with an increaſe of pain and ſickneſs. His ſleep is diſturbed and unrefreſhing, and his countenance betrays great mental anxiety, as well as bodily ſuffering. His complaint had exiſted for two years, and had greatly reduced the patient's bulk and ſtrength. He had been accuſtomed to live chiefly on vegetable food of an acid and flatulent kind, and ſometimes had indulged to exceſs in ſpirituous liquors. From the nature and duration of the diſeaſe, I was apprehenſive there might be an organic affection of the ſtomach, and therefore my hopes of ſucceſs were not ſanguine. But as much uncertainty prevailed, and as my former experience had convinced me of the utility of biſmuth in combating ſymptoms nearly allied to thoſe which affected this patient, I reſolved to give it a trial. He was accordingly ordered to take, after the bowels had been properly cleanſed, half a drachm of the compound powder of biſmuth, thrice a day, and to have a ſmall bliſter applied to the region of the ſtomach. His diet to conſiſt chiefly of animal food, and broth; and for common drink, a ſmall portion of ardent ſpirit, plentifully diluted with water.

"24th. The patient has already obtained great relief. The ſtomach is able to ſuſtain a moderate portion of food without

great uneaſineſs, and no longer rejects its contents in an acid ſtate. The ſpaſms are abated in frequency and duration, and the patient can now ſleep uninterruptedly for ſeveral hours in the night. The pulſation at the navel continues troubleſome, and the appetite is uniformly ſickly, and languid. An infuſion of bark with colombo was directed to be taken after each doſe of the powders.

"27th. The patient's appetite and ſtrength are much invigorated; but he is ſtill haraſſed by the dull and preſſing pain at his ſtomach, and ſenſe of conſtriction at the œſophagus. A bliſter was ordered to be applied to the epigaſtric region, and his medicines to be continued.

"Sept. 2d. The tone of the ſtomach is now completely reſtored, and, indeed, there is but little derangement in any of the animal functions. The bowels have become rather torpid, and require caſtor oil to promote their regular action. The medicines were perſevered in till the 9th, when the patient was ſuddenly ſeized with an acute pain in the umbilical region, attended with an increaſe of the pulſatory ſenſation, which he has ſo often experienced in the ſame parts. The attack was preceded by rigors, and accompanied with a ſtrong, full pulſe, and feveriſh heat. I ordered about eight ounces of blood to be taken from the arm, the bowels, which were rather conſtipated, to be freely evacuated, and his medicines to be diſcontinued for the preſent. The paroxyſm terminated in a few hours, and the patient was able the next day to reſume his former plan, which he continued till the 15th, when he was diſcharged, completely cured."

Med. and Chirurg. Review.

Obſervations on Hydrophobia from the ſame.

In his ſupplementary remarks, Dr. Bardſley contends, as he had before done, for the exiſtence of *ſpontaneous hydrophobia* in the human ſubject, independent of all infection. He thinks, alſo, that the objections which ſome have made to the term *hydrophobia*, upon the ſuppoſition that a dread of water is not an eſſential ſymptom of the diſeaſe, are without foundation. There is ſcarcely, he obſerves, a ſingle well authenticated hiſtory of the diſeaſe, in which an averſion to ſwallowing liquids was not perceived at ſome ſtage of the diſorder, and therefore that the term hydrophobia (Υδροφοβία) is at leaſt as proper as either Βραχυποτια or Δυσκατάποσις, both of which imply a difficulty of ſwallowing, and more appropriately belong to topical organic affections of the organs of deglutition.

Reſpecting the origin of canine madneſs in animals, after queſtioning the validity of the opinions which refer it to certain remote cauſes, as putrid aliment, climate, deficiency of water, want of perſpiration, and laſtly, what is called the *worm under the tongue*, the author offers his own opinion, that the diſeaſe is never generated in animals but by contagion. In this idea he is ſupported by thoſe whoſe extenſive opportunities for obſervation entitle them to much conſideration, namely, thoſe gentlemen who are accuſtomed to keep hounds in packs for the purpoſes of the chaſe, and who muſt be admitted to be competent witneſſes on a queſtion of this nature.

"I have been favoured," the author ſays, "with ſome important information, the reſult of experiment and actual obſervation, from a gentleman who appears to have inveſtigated with an equal ſhare of zeal and ſagacity, the ſubject of rabies in dogs:—I allude to Walter Trevelyan, Eſq. of Nether

Wilton near Morpeth, who, from his attachment to ſporting, and his earneſt wiſh to relieve mankind from the danger of this malady, has directed his endeavours both for its prevention and cure, among the canine ſpecies. I ſhall ſelect from his correſpondence ſuch parts as throw light upon the general ſubject, and at the ſame time confirm ſome of the facts and arguments advanced in the courſe of this inveſtigation. "I have kept hounds (he remarks) for many years, during which time, I have not had leſs than fifty couples of them go mad; not a ſingle one could I cure by any medicine that was adminiſtered--The Ormſkirk remedy was given in doſes innumerable; worming under the tongue was alſo found uſeleſs. Sea bathing, large bleedings, and mercury, exhibited in various forms and quantities, were all tried in vain. The notion that the jaw of a mad dog, when wormed, (by drawing out a tendinous or muſcular fibre from the under part of the tongue) will fall down and render the animal incapable of biting in conſequence of the operation, is entirely erroneous; not but that the jaw of a dog, when mad, may drop down, and be incapable of biting; but by no means owing to the worming, for I have remarked the fact when no ſuch operation has been performed.'

"Concerning the origin of the diſeaſe among his hounds he remarks, "The firſt occaſion of madneſs among my pack aroſe from its being joined, when hunting, by a ſtrange dog, who was ſoon perceived to be mad, but not before he had bitten many of the hounds. Within three weeks after, the ſymptoms broke out, when each hound was kept ſeparate at ſuch a diſtance as not to be able to bite each other. *They all died mad* at different intervals, according to their conſtitutions, or ſtrength of the fever.' Again he obſerves, 'no pack when hunting can be ſaid to be entirely ſafe, as frequently parts of it are out of ſight in woods and covers; ſome of the hounds

are occaſionally loſt and abſent for two or three days, and who can tell what may happen to them? Beſides, how much miſchief may occur at night from travelling mad dogs, which (as you ſay and I believe) will go to the diſtance of fifty miles from home?'

"In anſwer to a query concerning the length of time which takes place between the bite and the appearance of madneſs in dogs—Mr. Trevelyan ſtates from his own obſervation, 'That ſeven days may be conſidered a *fair average* of the ſhorteſt, and three weeks of the longeſt period from the date of the bite, to the occurrence of the diſeaſe, but this depends upon ſeveral circumſtances: If a dog be confined, the fever is longer before it ſhews itſelf; but ſhould the animal be at large, and hotly purſued, the irritation from an increaſed circulation of blood brings on the diſeaſe much ſooner.'

"Mr. Trevelyan is firmly perſuaded, contrary to the eſtabliſhed opinion, that the canine virus is equally as contagious as the ſmall-pox or meaſles; and he ſupports his opinion by the following ſtatement of facts. 'After loſing my firſt pack (he remarks) I ordered all the ſtraw to be taken out, the benches to be ſcalded with boiling water, and all the joints, cracks, &c. to be painted over, and filled up with hot diluted tar; the walls to be white-waſhed, the pavement thoroughly waſhed and cleaned with hot water. Being thus ſecure from infection (as I then thought) I collected another pack of hounds; yet madneſs occaſionally broke out year after year. Thus kept in perpetual alarm, I ordered all the ſecond pack to be deſtroyed. After having reaſoned much within myſelf on the ſubject, I took up the idea, that the cauſe of the infection had not been entirely removed, notwithſtanding my former precautions. I therefore ordered the pavement, in which the ſaliva, or other tainted excretions of the animals, might have

penetrated and lodged, to be taken up, together with all the earth in which it was bedded, and thrown into the river, and the kennel to be new painted, fumigated, white-waſhed, &c. and ever after the pack was free from infection. What ſtill further ſtrengthens my opinion of the ſubtile and contagious nature of the canine virus is the following fact: a game keeper, who lived at a diſtance (eight miles) aſſiſted me daily in diſſecting, &c. the hounds which died of madneſs. It happened once, that when he returned home, not having waſhed his hands after the operation, he had occaſion to attend upon two bitches belonging to his maſter, that had whelps, which were confined in ſeparate places half a mile diſtant from each other. When entering their reſpective kennels, with meat in his hands, they leaped up to ſmell at it, and inſtantly appeared diſturbed, rubbing their noſes among the graſs, &c. Both theſe animals ſhortly went mad.' The above ſtatement is well worthy conſideration; and although it do not afford deciſive evidence of the capability of the canine virus, in the form of vapour, to produce infection; nor that the ſecretions and excretions of a mad dog are all alike poiſonous, and may retain their infectious properties for a length of time; yet there is enough proven to excite attention to the facts, and at all events to demand the employment of the means pointed out for purifying kennels in which rabid dogs have been confined."

Med. and Chirurg. Review.

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*On the Anatomy, &c. of the Beaver.**

The ſecond chapter contains the anatomy of the beaver. After a general deſcription of the animal, the author gives a minute and detailed account of the parts which furniſh the caſtor. The four bags that are obſerved to be ſituated near

* Anatome caſtoris, atque chemica caſtorei analyſis, ejuſque in medicina uſus.—Auctore Andrea Conrado Benn, Batav. &c. 1806.

the genital organs, and the two ſuperior of which contain the caſtor, were taken by the antients for the teſticles, and have ſince been the ſubject of various wild conjectures. Theſe different opinions are here all brought forward.

The four bags mentioned, are formed by the external integuments, of which indeed they are properly continuations. The two inferior ones conſiſt of a collection of a great number of ſmall glandular bodies, that ſecrete a ſort of unctuoſity (*ſebum* or *ſmegma*,) and are conſequently true ſebaceous glands, ſuch as are found in various animals around the anus, and in other parts. The other two, or ſuperior bags, are lined with a tunic, very like that of the gall-bladder, formed into a number of *rugæ*, which ſerve to increaſe its ſecretory ſurface. The fluid which this membrane ſecretes, and which is afterwards lodged in theſe ſacs, is the proper caſtor, altogether different from the contents of the other two.

Both theſe matters are, in the author's opinion, of great utility in the economy of the animals, particularly in the act of coition. The firſt, he thinks, renders the parts more ſupple, and defends them from the water, in which this act is performed. The other, the caſtor, favours the venereal excitement (*æſtrum venereum*,) by ſtimulating the penis of the male to erection, and by an equal action on the orifice of the genital parts in the female.

The third chapter is devoted to the analyſis of caſtor, and the ſort particularly ſelected by the author for the purpoſe was the Ruſſian or Siberian. According to this analyſis, caſtor conſiſts of,

1. An ethereal oil, in quantity about one-third of the whole.
2. Adipocire, with a ſmall portion of reſin, about one-fourth.

3. Calcareous earth, one-fourth.
4. Cellular ſubſtance, one-ſixth: this laſt part cannot properly be ſaid to belong to the caſtor.

The more remote conſtituents of it are, oxygen, hydrogen, carbon, azote, calcareous earth, ſoda, phoſphorus, and a ſmall quantity of æther. *Med. and Chir. Rev.*

PEARSON, *on the Eczema Mercuriale.*

The *Eczema Mercuriale* or mercurial raſh is exceedingly well deſcribed. "When a man is about to be attacked by the Eczema, he ſometimes complains of a heat and pruritus about the ſcrotum, and the upper and inner parts of the thighs, which, on examination, appear faintly red, and are ſomewhat rough. On other occaſions, the heat, redneſs, and roughneſs, are firſt to be obſerved in the groins, and at the bend of the arms. In every caſe, which has come under my notice, the anterior parts of the body have been affected before the poſterior parts, and the lower extremities have ſuffered from the Eczema, prior to its appearance on the trunk of the body: yet there is not ſo much of conſtancy and method in the order in which it proceeds, that the upper extremities are not occaſionally attacked as early as the thighs, and I have ſeen each cheek conſiderably reddened and tumefied, before any part of the trunk was evidently affected. This redneſs, beginning on the extremities, makes a ſlow and gradual progreſs over the whole body, no part being exempted from it; its increaſe is attended with great tenderneſs of the ſkin, a troubleſome itching, and an evident tumefaction of the parts affected; the ſwelling is not unlike that which attends the eryſipelas, and I have ſeen it as

* Obſervations on the effects of various articles of the Materia Medica, in the cure of Lues Venerea, &c. &c. By John Pearſon, F. R. S. 2d. edit.

conſiderable as that which accompanies the confluent ſmall-pox. The temperature of the ſkin is increaſed, the tongue is white, and the pulſe frequent; but neither the functions of the ſtomach, nor of the ſenſorium commune, are evidently diſturbed by this complaint.

"The Eczema Mercuriale is always a veſicular diſeaſe, although the veſicles, which contain a pellucid fluid, are, at their firſt appearance, ſo ſmall, that they cannot be eaſily diſtinguiſhed from papulæ, without the aid of a convex glaſs; they are then ſeen to be diſtinct, each veſicle ſurrounded by a circle of redneſs, and, if they are not ruptured at an early period, they acquire the ſize of a large pin's head, at which time their contents are opake and puriform. The rupture of the veſicles is ſucceeded by a diſcharge of a thin acrid fluid, which ſeems to irritate the ſurface which it touches, and increaſes greatly the patient's ſufferings; and, as the diſeaſe proceeds, he is excoriated almoſt from head to foot. The quantity of diſcharge is in proportion to the extent of the excoriated ſurface; it is always conſiderable, and renders the linen, which abſorbs it, ſtiff and unyielding. As the fluid diſcharged becomes thicker and more adheſive, it emits an offenſive ſcent, ſimilar to that which ariſes from the ſecretions of the ſebaceous glands, when under the influence of diſeaſe.

"As the Eczema Mercuriale does not invade the whole ſurface of the body at once, but occupies the different parts of it ſucceſſively, ſo the ſeveral portions of the ſkin affected by it exhibit a more, or leſs, advanced ſtate of the diſeaſe at the ſame time: hence, while the part firſt attacked is diſcharging the adheſive matter, the thin acrid fluid may be flowing from another portion. From this repreſentation, it muſt be obvious that the exact period obſerved by this diſeaſe cannot be eaſily aſcertained, nor, indeed, does it appear to be limited by any

regular term of duration. When the diſeaſe has affected but a ſmall part of the body, I have ſeen it terminate in ten days; but, when it has been univerſal, the patient ſeldom recovers completely in leſs than ſix, eight, or ten weeks. When the diſcharge ceaſes, the looſened cuticle acquires firſt a pale brown colour, and then becomes nearly black, ſeparating in large flakes, and leaving a faint redneſs on the expoſed ſurface. This firſt deſquamation is often ſucceeded by a ſecond, or even a third; but in theſe latter deſquamations the cuticle is more of a white colour, and ſeparates in farinaceous-like ſcales, ſo that the ſurface of the ſkin appears as if it were covered with a white powder. The effects of the Eczema Mercuriale are not, however, confined to the deſtruction of the epidermis. I have known all the hair of the body, the beard, the hair under the axilla, and on the regio pubis, and the greater part of the eye-brows and hair of the head, ſeparate, and leave the parts as ſmooth as in a ſtate of infancy; but the eye-laſhes do not uſually fall off in this diſeaſe, although there is generally a redneſs about the tarſi and inner covering of the eye-lids. In one caſe, the nails of the fingers and toes ſeparated from their attachment, and came away, and were ſucceeded by others of an irregular and deformed appearance, not unlike the nails of perſons afflicted with lepra."

With regard to the treatment of this troubleſome affection, Mr. Pearſon doubts whether any remedies have the power of interrupting its regular courſe, or of abridging its duration. It ceaſes, however, ſpontaneouſly after a time, and has never proved fatal. The irritation may be relieved by a cooling regimen, and the application of a ſaturnine ointment to the excoriated parts. *Med. and Chir. Rev.*

On the Chemical Re-action of Medicines on each other.

It is perhaps not generally known, that nitric æther is ſo readily decompoſed as is actually the caſe; a fact of ſome conſequence to be known to preſcribers, and which ſhews the neceſſity of a minute acquaintance with the chemical agencies of different bodies on one another. A phyſician had occaſion to preſcribe nitric æther in combination with ſome diſtilled waters, and the ſyrup of poppies. The patient, who took the draught thus compounded, complained, to the ſurpriſe of his phyſician, of its acid taſte and offenſive odour.—The fact is, that nitric æther, when in contact with water, and eſpecially if the water has ſugar diſſolved in it, is decompoſed, and nitrous acid and nitrous gas are formed. It is even decompoſed ſpontaneouſly by keeping, when expoſed to a temperature below 60° F.; while, at a temperature above 88° F. it enters into ebullition, and burſts the veſſels that contain it.

It follows, that when nitric æther is preſcribed, it ſhould be kept ſeparate in a cloſely ſtopped phial, at a temperature at or below 60 F.; and the quantity to be taken ſhould be poured out, and mixed with the intended vehicle, at the moment of uſing it. *Med. and Chir. Rev.*

Mode of preſerving Vegetable Juices and Fruits.

It has long been a common practice in wine countries, to fumigate with ſulphur the veſſels intended for keeping wine. M. *Cadet*, an apothecary of Paris, applies this means of preſervation to the depurated juices of plants. He has aſcertained, he ſays, by numerous experiments, that this mode is prefer-

able to all thoſe that have been employed hitherto; ſuch as the excluſion of air, a reduced temperature, and the addition of alkohol. He has by him the juices of quinces and barberries, which, after three years keeping in fumigated bottles, are as freſh, he ſays, and in as good preſervation, as when firſt expreſſed. The operation is exceedingly ſimple. It conſiſts merely in introducing a lighted match with brimſtone into the inverted bottle for an inſtant, withdrawing it again as ſoon as the bottle appears full of the vapour. The liquor is then immediately to be put into the bottle, which is to be cloſely ſtopped, and depoſited in a cool ſituation. This mode appears to prevent effectually the fermentation of the juice, without imparting to it any unpleaſant ſmell or flavour.

Med. and Chir. Rev.

Calculus Diſcharged by Abſceſs.

A caſe has been lately publiſhed by M. *Caumond*, in the *Recueil Periodique de la Societé de Médecine*, of an urinary calculus diſcharged through an abſceſs which formed in the hypogaſtric region. The ſtone weighed no leſs than nine drachms.

Med. and Chir. Rev.

Of the Acid contained in Urine.

It has been generally ſuppoſed hitherto, that the acid which exiſts conſtantly in the free ſtate in human urine, was the phoſphoric acid. This opinion reſted principally upon the urine being found to contain a conſiderable quantity of phoſphate of lime, which, being inſoluble in the perfectly neutralized ſtate,

becomes exceedingly ſoluble, and even deliqueſcent, with an exceſs of acid. M. *Thenard* has lately read before the *French National Inſtitute* a memoir, in which he proves that the diſengaged acid in human urine is the acetous, an acid which is found equally in the ſweat and in the milk.

Med. and Chir. Rev.

Singular Inſtance of Bulimia.

There is at preſent, in St. Bartholomew's Hoſpital, a young woman, twenty-five years of age, named Sarah Brooks, who takes an uncommon quantity of food, but under very ſingular circumſtances. She ſleeps very little, ſcarcely half an hour in the ſpace of twenty-four hours. At all other times ſhe is inceſſantly eating. She conſumes regularly two quartern loaves a-day, weighing nearly nine pounds; and twice a-day ſhe eats a pound and a half of beef ſteaks. She drinks about three pints of porter daily. Yet ſhe declares ſhe has no appetite, but is impelled to eat by an intolerable ſinking ſenſation at the ſtomach, which is only relieved by continually ſwallowing food. As a proof that ſhe has none of the uſual inclination for food, ſhe can eat only bread and beef. All other kind of food is diſagreeable to her. Even beef dreſſed in another manner would be diſliked. She has a ſtrong deſire to drink cold water, but abhors the taſte of ſpirits. She has had two children. The laſt time ſhe lay in was ſeven months ago. She ſuckled her child for two months, when ſhe weaned it on account of the weak ſtate of her health. From this time her preſent complaint has been gradually coming on, and has been nearly in its preſent ſtate for the laſt two months. She has a conſtant pain in the right ſide of the abdomen, which is conſiderably but equally enlarged, and without any particular

hardneſs or fluctuation. She has a conſtant diarrhœa. Her urine is in natural quantity. She feels always thirſty, and has an univerſal ſenſation of a burning heat, though her ſkin is not remarkably hot to the touch, except in the palms of the hands. Her uneaſy feelings altogether, particularly that of ſinking at the ſtomach, are ſo diſtreſſing, that ſhe ſays ſhe is weary of her life. She is of a full habit of body: her countenance and eyes are natural, and ſhe has no feeling of pain in the head. She feels great relief from waſhing her hands, feet, and neck with cold water, and is highly gratified by being ſuffered to have a baſin of cold water by her, to dip her hands into frequently, and to ſprinkle herſelf with. Before the preſent attack ſhe was a very little eater. Her menſes are regular. A variety of medicines have been employed, but hitherto, it ſeems, without advantage. *Med. and Chir. Rev.*

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*An Account of two Children born with Cataracts in their Eyes, to ſhew that their Sight was obſcured in very different Degrees; with Experiments to determine the proportional Knowledge of Objects acquired by them immediately after the Cataracts were removed.**

"Mr. Cheſelden's obſervations on this ſubject, recorded in the Philoſophical Tranſactions for the year 1728, pointed out two material facts; that viſion alone gives no idea of the figure of objects, or their diſtance from the eye, ſince a very intelligent boy, thirteen years of age, upon recovering his ſight was unable to diſtinguiſh the outline of any thing placed before him, and thought that every object touched his eye.

* Philoſophical Tranſactions of the Royal Society for 1807.

" Mr. Ware's caſes, which have alſo a place in the Philoſophical Tranſactions for 1801, and are compared with that of Mr. Cheſelden, appear to lead to a different concluſion. The following obſervations are laid before the ſociety with a view to explain this circumſtance.

Case 1.

" William Stiff, 12 years of age, was admitted into St. George's Hoſpital under my care on the 17th of July 1806, with cataracts in his eyes, which, according to the account of his mother, exiſted at the time of his birth. From earlieſt infancy he never ſtretched out his hand to catch at any thing, nor were his eyes directed to objects placed before him, but rolled about in a very unuſual manner, although in other reſpects he was a lively child. The eyes were not examined till he was ſix months old, and at that time the cataracts were as diſtinct as when he was received into the hoſpital.

" Previous to an operation being performed, the following circumſtances were aſcertained reſpecting his viſion. He could diſtinguiſh light from darkneſs, and the light of the ſun from that of a fire or candle: he ſaid it was redder, and more pleaſant to look at, but lightning made a ſtill ſtronger impreſſion on his eyes. All theſe different lights he called red. The ſun appeared to him the ſize of his hat. The candle flame was larger than his finger, and ſmaller than his arm. When he looked at the ſun, he ſaid it appeared to touch his eye. When a lighted candle was placed before him, both his eyes were directed towards it, and moved together. When it was at any nearer diſtance than twelve inches, he ſaid it touched his eyes. When moved further off, he ſaid it did not touch them; and and at twenty-two inches it became inviſible.

"On the 21ſt of July, the operation of extracting the cryſtalline lens was performed on the left eye. The capſule of the lens was ſo very ſtrong as to require ſome force to penetrate it. When wounded, the contents, which were fluid, ruſhed out with great violence. Light became very diſtreſſing to his eye, and gave him pain. After allowing the eye-lids to remain cloſed for a few minutes, and then opening them, the pupil appeared clear, but he could not bear expoſure to light. On my aſking him what he had ſeen, he ſaid, 'your head, which ſeemed to touch my eye:' but he could not tell its ſhape. He went to bed, and took an opiate draught: the pain in his eye laſted about an hour, after which he fell aſleep. The whole of that day the light was diſtreſſing to his eye, ſo that he could not bear the leaſt expoſure to it.

"On the 22d the eye-lids were opened to examine the eye. The light was leſs offenſive. He ſaid he ſaw my head, which touched his eye. There was ſo much inflammation on the eye-ball, that a leech was applied to the temple, and the common means for removing inflammation were uſed.

"On the 23d the eye was leſs inflamed, and he could bear a weak light. The pupil was of an irregular figure, and the wounded cornea had not united with a ſmooth ſurface. He ſaid he could ſee ſeveral gentlemen round him, but could not deſcribe their figure. My face, while I was looking at his eye, he ſaid was round and red.

"On the 25th the inflammation had ſubſided, but on the 27th returned, and continued notwithſtanding different means were employed for its removal, till the firſt of Auguſt, when it was almoſt entirely gone. On the fourth the eye was appa-

rently ſo well, that an attempt was made in the preſence of Mr. Cavendiſh and Dr. Wollaſton to aſcertain its powers of viſion; but it was ſo weak that it became neceſſary to ſhade the glare of light by hanging a white cloth before the window. The leaſt exertion fatigued the eye, and the cicatrix on the cornea, to which the iris had become attached, drew it down ſo as conſiderably to diminiſh the pupil. From theſe circumſtances nothing could be ſatisfactorily made out reſpecting the boy's viſion. On the 11th a ſecond attempt was made in the preſence of Mr. Cavendiſh, but the pupil continued ſo contracted and irregular, and the eye ſo imperfect in its powers, that it became neceſſary a ſecond time to poſtpone any experiments.

"On the 16th of September the right eye was couched. This operation was preferred after what had happened to the other eye, in the hope that there would not be the ſame degree of inflammation; and as the former cataract was fluid, there was every reaſon to believe that couching would in this inſtance be moſt efficacious.

"The operation gave pain, and the light was ſo diſtreſſing to his eye that the lids were cloſed as ſoon as it was over, and he was put to bed. The conſequent inflammation was not ſevere, but as ſoon as the fluid cataract which had been diffuſed through the aqueous humour was abſorbed, the capſule of the lens was found to be opaque, and the ſight conſequently imperfect. The eyes were not examined with reſpect to their viſion till the 13th of October, during which period the boy remained quiet in the hoſpital. On that day the upper part of the pupil of the left eye had in ſome meaſure recovered its natural ſtate, and had become tranſparent, but the cicatrix in the cornea was more extenſively opaque than before. The light now was not diſtreſſing to either eye, and when ſtrong, he could

readily diſcern a white, red, or yellow colour, particularly when bright and ſhining. The ſun and other objects did not now ſeem to touch his eyes as before; they appeared to be at a ſhort diſtance from him. The eye which had been couched had the moſt diſtinct viſion of the two, but in both it was imperfect. The diſtance at which he ſaw beſt was five inches.

"When the object was of a bright colour, and illuminated by a ſtrong light, he could make out that it was flat and broad; and when one corner of a ſquare ſubſtance was pointed out to him, he ſaw it, and could find out the other, which was at the end of the ſame ſide, but could not do this under leſs favourable circumſtances. When the four corners of a white card were pointed out, and he had examined them, he ſeemed to know them: but when the oppoſite ſurface of the ſame card, which was yellow, was placed before him, he could not tell whether it had corners or not, ſo that he had not acquired any correct knowledge of them, ſince he could not apply it to the next coloured ſurface, whoſe form was exactly the ſame with that, the outline of which the eye had juſt been taught to trace.

Case 2.

"John Salter, ſeven years of age, was admitted into St. George's hoſpital on the firſt of October, 1806, under my care, with cataracts in both eyes, which according to the accounts of his relations had exiſted from his birth.

"After he was received into the hoſpital, the following circumſtances were aſcertained reſpecting his viſion. The pupils

contracted conſiderably when a lighted candle was placed before him, and dilated as ſoon as it was withdrawn. He was capable of diſtinguiſhing colours with tolerable accuracy, particularly the more bright and vivid ones.

"On the ſixth of October the left eye was couched. This operation was preferred to extraction, from a belief that the cataracts were not ſolid, and as the injury done to the capſule by the operation would be leſs, there was not the ſame chance of inflammation, the diſpoſition for which had been ſo ſtrong in the former caſe. As the eye was not irritable, and was likely to be but little diſturbed by this operation, every thing was previouſly got ready for aſcertaining his knowledge of objects, as ſoon as the operation was over, ſhould the circumſtances prove favourable. The operation was attended with ſucceſs, and gave very little pain. The eye was allowed ten minutes to recover itſelf: a round piece of card of a yellow colour, one inch in diameter, was then placed about ſix inches from it. He ſaid immediately that it was yellow and on being aſked its ſhape, ſaid, 'Let me touch it, and I will tell you.' Being told that he muſt not touch it, after looking for ſome time, he ſaid it was round. A ſquare blue card, nearly the ſame ſize, being put before him, he ſaid it was blue and round. A triangular piece he alſo called round. The different colours of the objects placed before him he inſtantly decided on with great correctneſs, but had no idea of their form. He moved his eye to different diſtances, and ſeemed to ſee beſt at 6 or 7 inches. His focal diſtance has been ſince aſcertained to be 7 inches. He was aſked whether the object ſeemed to touch his eye, he ſaid, 'No;' but when deſired to ſay at what diſtance it was, he could not tell. Theſe experiments were made in the theatre of the hoſpital, in which the operation was performed, before the ſurgeons and all the ſtudents. He was highly delighted

with the pleaſure of ſeeing, and ſaid it was 'ſo pretty,' even when no object was before him, only the light upon his eye. The eye was covered, and he was put to bed, and told to keep himſelf quiet, but upon the houſe-ſurgeon going to him half an hour afterwards, his eye was found uncovered, and he was looking at his bed curtains, which were cloſe drawn. The bandage was replaced, but ſo delighted was the boy with ſeeing, that he again immediately removed it. This circumſtance diſtreſſed the houſe-ſurgeon, who had been directed to prevent him from looking at any thing till the next day when the experiment was to be repeated. Finding that he could not enforce his inſtructions, he thought it moſt adviſeable to repeat the experiment about two hours after the operation. At firſt the boy called the different cards round; but upon being ſhewn a ſquare, and aſked if he could find any corners to it, he was very deſirous of touching it. This being refuſed, he examined it for ſome time, and ſaid at laſt that he had found a corner, and then readily counted the four corners of the ſquare; and afterwards, when a triangle was ſhewn him, he counted the corners in the ſame way; but in doing ſo his eye went along the edge from corner to corner, naming them as he went along.

"Next day, when I ſaw him, he told me he had ſeen 'the ſoldiers with their fifes and pretty things.' The guards in the morning had marched paſt the hoſpital with their band; on hearing the muſic he had got out of bed, and gone to the window to look at them. Seeing the bright barrels of the muſkets, he muſt in his mind have connected them with the ſounds which he heard, and miſtaken them for muſical inſtruments. On examining the eye 24 hours after the operation, the pupil was found to be clear. A pair of ſciſſors was ſhewn him, and he ſaid it was a knife. On being told he was wrong, he could not make them out; but the moment he touched them he ſaid

they were ſciſſors and ſeemed delighted with the diſcovery. On being ſhewn a guinea at the diſtance of 15 inches from his eye, he ſaid it was a ſeven ſhilling piece; but placing it about 5 inches from his eye, he knew it to be a guinea; and made the ſame miſtake as often as the experiment was re-repeated.

"From this time he was conſtantly improving himſelf by looking at, and examining with his hands, every thing within his reach, but he frequently forgot what he had learnt. On the 10th I ſaw him again, and I told him his eye was ſo well that he might go about as he pleaſed without leaving the room. He immediately went to the window, and called out, 'What is that moving?' I aſked him what he thought it was? He ſaid, 'A dog drawing a wheel-barrow. There is one, two, three dogs, drawing another. How very pretty!' Theſe proved to be carts and horſes on the road, which he ſaw from a two pair of ſtairs window.

"On the 19th, the different coloured pieces of card were ſeparately placed before his eye, and ſo little had he gained in thirteen days, that he could not without counting their corners one by one tell their ſhape. This he did with great facility, running his eye quickly along the outline, ſo that it was evident he was ſtill learning, juſt as a child learns to read. He had got ſo far as to know the angles, when they were placed before him, and to count the number belonging to any one object.

"The reaſon of his making ſo ſlow a progreſs was, that theſe figures had never been ſubjected to examination by touch, and were unlike any thing he was accuſtomed to ſee.

"He had got ſo much the habit of aſſiſting his eyes with his hands, that nothing but holding them could keep them from the object.

"On the 26th the experiments were again repeated on the couched eye, to aſcertain the degree of improvement which had been made. It was now found that the boy, on looking at any one of the cards in a good light, could tell the form nearly as readily as the colour.

"From theſe two caſes the following concluſions may be drawn:

"That, where the eye before the cataract is removed, has only been capable of diſcerning light, without being able to diſtinguiſh colours, objects after its removal will ſeem to touch the eye, and there will be no knowledge of their outline; which confirms the obſervations made by Mr. Cheſelden.

"That where the eye has previouſly diſtinguiſhed colours, there muſt alſo be an imperfect knowledge of diſtances, but not of outline, which however will afterwards be very ſoon acquired, as happened in Mr. Ware's caſes. This is proved by the hiſtory of the firſt boy in the preſent paper, who before the operation had no knowledge of colours or diſtances, but after it, when his eye had only arrived at the ſame ſtate, that the ſecond boy's was in before the operation, he had learnt that the objects were at a diſtance, and of different colours: that when a child has acquired a new ſenſe, nothing but great pain or abſolute coercion will prevent him from making uſe of it.

"In a practical view, theſe caſes confirm every thing that has been ſtated by Mr. Pott and Mr. Ware, in proof of cataracts in children being generally ſoft, and in favour of couching, as being the operation beſt adapted for removing them. They alſo lead us to a concluſion of no ſmall importance, which has not before been adverted to; that when the cataract has aſſumed a fluid form, the capſule, which is naturally a thin tranſparent membrane, has to reſiſt the preſſure of this fluid, which like every other diſeaſed accumulation is liable to increaſe, and diſtend it, and therefore the capſule is rendered thicker and more opaque in its ſubſtance, like the coats of encyſted tumours in general.

"As ſuch a change is liable to take place, the earlier the operation is performed in all children, who have cataracts completely formed, the greater is their chance of having diſtinct viſion after the operation. It is unneceſſary to point out the advantages to be derived from its being done at a more early age, independent of thoſe reſpecting the operation itſelf."

Med. and Chir. Rev.

Obſervations, on the Structure of the different Cavities which conſtitute the Stomach of the Whale, compared with thoſe of ruminating Animals, with a view to aſcertain the Situation of the Digeſtive Organ; by the ſame.*

"The following obſervations," Mr. Home remarks, "are in ſome meaſure a continuation of thoſe upon the ſtomachs of

* From the Philoſophical Tranſactions, for 1807. The author Mr. Home, (omitted in the preceding paper, by miſtake).

ruminating animals, contained in a former paper.* They are intended to ſhew that the ſtomach of the whale forms a link in the gradation towards the ſtomachs of truly carnivorous animals.

"This ſubject was brought under my conſideration by the following circumſtances. While at Worthing on the Suſſex coaſt, in the month of Auguſt laſt, a Delphinus Delphis of Linnæus, or ſmall bottle-noſe whale of Mr. Hunter, was brought on ſhore by the fiſhermen alive. I immediately purchaſed it, with a view of enriching the Hunterian collection with the ſkeleton, and other parts of its ſtructure.

"The ſtomach was the particular object of my own attention; for, having been ſo lately employed in conſidering the ſtomachs of ruminating animals, I was pleaſed with an opportunity of examining in a recent ſtate the ſtomach of one of the whale tribe, to which the porpoiſe belongs, with a view to aſcertain more accurately than had been hitherto done, the real reſemblance between its ſtructure and that of the ſtomachs of ruminating animals.

"The ſtructure of the ſtomach of one ſpecies of whale was not new to me, having twenty years ago aſſiſted Mr. Hunter in diſſecting the piked whale, but at that time I only viewed the different parts of its ſtructure with the eye of a common obſerver, while now my mind was particularly directed to the peculiarities of the ſtomach. In this examination I diſcovered a reſemblance between the ſecond, third, and fourth cavities in the whale, and the two portions of the fourth cavity in the

* See p. lxv of this vol. of the Muſeum.

bullock and camel, which appears to throw ſome light upon the uſes of thoſe parts, as well as upon digeſtion in general.

"As in the former paper a particular deſcription was given of the ſtomach of the bullock and camel, as examples of ruminants with and without horns, it will be proper here to deſcribe the ſtomach of the bottle-noſe porpoiſe, as an example of the whale tribe.

"In the bottle-noſe porpoiſe the œſophagus is very wide, has a number of longitudinal folds, and is lined with a ſtrong white cuticle, which is continued over the internal ſurface of the firſt ſtomach.

"The firſt ſtomach lies in the direction of the œſophagus, which is continued into it, there being no contraction to mark its origin. It is of an oval form, and bears a ſtrong reſemblance in ſhape to a Florence flaſk The cavity is 15 inches in length, and 9 in diameter. The internal ſurface has a very corrugated appearance, and its cuticular covering is thick and ſtrong. The coats of the cavity are firm, and its bottom is ſurrounded by a ſtrong muſcular covering.

"The orifice which leads to the ſecond ſtomach is at right angles to the cavity, and is ſituated a little way below the termination of the œſophagus. It is ſurrounded by ſeveral ſemicircular doublings of the internal membrane: the broadeſt of theſe is on the lower part; theſe are thick, and appear to be glandular.

"There is a canal between the firſt and ſecond cavities three inches long, which opens into the ſecond by a projecting orifice,

and the cuticular covering of the firſt ſtomach terminates immediately beyond this orifice, which is two and an half inches in diameter.

"This ſecond ſtomach is nearly ſpherical, about ſeven inches in diameter. Its internal ſurface has a honey-combed appearance, formed by ſoft ridges of a glandular ſtructure, leaving interſtices of ſome depth between them. This ſtructure gives the coats a conſiderable degree of thickneſs.

"The opening into the third ſtomach is almoſt cloſe to that which enters the ſecond, and is only $\frac{5}{8}$ of an inch in diameter.

"The third cavity is nearly ſpherical, and is two inches in diameter. Its internal ſurface is ſmooth, and there are every where ſmall orifices of ducts of glands opening into its cavity. The aperture which communicates between this and the fourth ſtomach is $\frac{3}{8}$ of an inch in diameter.

"The fourth cavity is nearly cylindrical like an inteſtine, but rather wideſt at its furtheſt extremity. It is $14\frac{1}{2}$ inches long; its greateſt diameter is three inches. The internal membrane is ſmooth, and for three inches towards its origin and four inches towards its termination has numerous orifices through which ſecretions are poured into the cavity. The pylorus, which is the boundary of this ſtomach, is a round orifice $\frac{2}{8}$ of an inch in diameter.

"Immediately beyond the pylorus there is a dilatation of the gut, which both Cuvier and Hunter call a cavity belonging to the ſtomach. It muſt however be conſidered as duodenum, ſince the common duct of the liver and pancreas opens into it; the longitudinal *valvulæ conniventes* have their origin in it; and

there is no tranſverſe conſtriction any where beyond it, to mark the beginning of an inteſtine. Such an enlargement of the duodenum is very common in other animals, and has been deſcribed in the account of the camel. The coats of this portion of the duodenum are thicker than thoſe of the fourth ſtomach.

"The number of cavities conſtituting the ſtomach are not the ſame in all animals of the whale tribe. In the common porpoiſe, grampus, and piked whale, the number is the ſame as in the bottle-noſe porpoiſe; but in the bottle-noſe whale of Dale there are two more cavities. This variation is however by no means material, ſince the general ſtructure of the ſtomach is the ſame.

"In all of the whale tribe there is one cavity lined with a cuticle, as in the bullock and camel.

"In all of them there is a ſecond cavity made up of a very glandular ſtructure. In the porpoiſe, grampus, and large bottle-noſe whale, this ſtructure reſembles that which is above deſcribed. In the piked whale the rugæ are longitudinal and deep, but in ſome places united by croſs bands; and as the piked whale has whalebone teeth, the great whalebone whale will probably, from the analogy of its teeth, reſemble it in the ſtructure of its ſtomach.

"The third cavity in all of them is very ſmall, and bears a ſtrong reſemblance to the third cavity in the camel's ſtomach; its uſe, therefore, is probably the ſame.

"The fourth ſtomach in all of them has a ſmooth internal ſurface, with the orifices of glands opening into its cavity. In the bottle-noſe whale of Dale the two additional cavities have the ſame internal ſtructure, and therefore muſt have the ſame

general uſe, with a greater extenſion of ſurface, and the ſubdivſions will make the food paſs more ſlowly into the inteſtine.

"The firſt ſtomach of the whale is not only a reſervoir, but the food undergoes a conſiderable change in it. The fleſh is entirely ſeparated from the bones in this cavity, which proves that the ſecretion from the glandular part has a ſolvent power. This was found to be the caſe in the bottle-noſe porpoiſe and large bottle-noſe whale. In both of them ſeveral handfuls of bones were found in the firſt ſtomach without the ſmalleſt remains of the fiſh to which they belonged. The ſoft parts only can be conveyed into the ſecond and third ſtomachs, the orifices being too ſmall to admit the bones to paſs.

"The bones muſt therefore be reduced to a jelly in the firſt ſtomach, and although the proceſs, by which this is effected, being ſlower than that which ſeparates the fleſh, is the reaſon of their being found in ſuch quantity in the cavity, the means by which it is performed are probably the ſame.

"The ſecond cavity was ſuppoſed by Mr. Hunter to be the true digeſting ſtomach, in which the food becomes chyle, and the uſe of the third and fourth he looked upon as not exactly aſcertained.*

"Upon what ground Mr. Hunter was led to draw this concluſion cannot now be aſcertained; and, ſuch is my reſpect for his opinion, that nothing but the following obſervations, ſupported by facts, could lead me to form a different one. In

"* Vide, Obſervations on the Structure and Œconomy of Whales. By John Hunter. Phil. Tranſ. vol. lxxvii. p. 411.

conſidering this ſubject, it ſtruck me that the ſecond ſtomach could not be that, in which chyle is formed, ſince that proceſs having been completed, any other cavities would be ſuperfluous. The laſt cavity in all ſtomachs is that, in which the proceſs muſt be brought to perfection; and therefore the moſt eſſential change, which the food undergoes, or that by which it is formed into chyle, ſhould be performed in that cavity. Surveying the different cavities in the whale's and ruminating ſtomachs with this impreſſion on my mind, and comparing them with the ſingle ſtomachs of carnivorous animals, it appeared that the firſt point, which required to be aſcertained was, which of the cavities in theſe more complex ſtomachs bears the greateſt reſemblance to the ſimple one. The fourth of the whale is certainly more like the human ſtomach than the ſecond or third. I therefore concluded that the fourth, both from analogy and ſituation, is the ſtomach in which the proceſs is completed: and that in this animal, from the peculiarities of its œconomy, and the nature of the food, not only a cuticular ſtomach is neceſſary, but alſo two glandular ones, in which it undergoes changes preparatory to its being converted into chyle.

"Having ſatisfied myſelf upon this ſubject, and having compared the ſtomachs of the whale, with the fourth of the camel, the contraction or partial diviſion of the camels, made it apparent that the lower portion only of that cavity, which reſembles in ſhape and internal appearance the human ſtomach, is the cavity in which chyle is formed, and the upper or plicated portion is only to prepare the food, and is therefore analogous to the ſecond in the whale.

"As the ſame appearances are met with in the fourth ſtomach of the bullock, as well as in the camel, although there is no

permanent contraction or diviſion between them, the upper or plicated portion muſt be conſidered as a preparatory organ, and the lower portion as that, in which the formation of chyle is completed. This receives further confirmation from a more attentive examination of the parts, immediately after death, by which it was found that before the ſtomach has been diſturbed there is an evident muſcular contraction between the plicated and lower portion. This appearance was met with in every inſtance that was examined, and theſe were not fewer than nine or ten. Added to this the lower portion, on a more minute inſpection, has an appearance ſomewhat ſimilar to the inner membrane of the human ſtomach: and the ſurface of the plicæ is in many reſpects different.

"From the facts and obſervations which have been ſtated, it appears that in many animals of the claſs Mammalia, the food undergoes different changes preparatory to its being converted into chyle, and this laſt proceſs is effected by a ſomewhat ſimilar ſecretion, ſince the part of the ſtomach which produces it has in all of them an evident ſimilarity of ſtructure.

"The above facts appear to throw ſome light on the digeſtion of the different kinds of food, and open a wide field of inquiry into one of the moſt intereſting parts of the animal economy which has been hitherto too much neglected. In the preſent very limited ſtate of our knowledge there are many circumſtances which cannot be accounted for: theſe, however, will be explained when a further progreſs has been made in this inveſtigation.

"It is obvious, that as the ſtomachs of carnivorous animals are the moſt ſimple, animal ſubſtances, on which they feed, require a ſhorter proceſs to convert them into chyle than vegeta-

bles; but why the whale tribe, which live on fiſh, ſhould have a more complex ſtomach, it is not eaſy to explain: ſince fiſh are very readily converted into chyle, in the ſtomachs of animals of their own claſs, as well as in the human ſtomach, and there is therefore reaſon to believe that they require as little preparation for that proceſs, if not leſs than animal ſubſtances.

"The fiſh bones ſwallowed by the whale tribe being retained in the cuticular bag, till they are reduced to jelly, explains the circumſtance of cows and other ruminating animals being able occaſionally to live on fiſh, (a fact, of which there is no doubt, both in the Orkneys and in Iceland,) ſince, if the bones are diſſolved in the paunch, the other ſtomachs are in no danger of being injured from the animal living on this kind of food.

Whether theſe cavities, which I have called preparatory ſtomachs, are ſolely for purpoſes connected with digeſtion, or are alſo in any way connected with the formation of ſecretions peculiar to thoſe animals, cannot be aſcertained in the preſent ſtate of our knowledge of digeſtion.

"The oil of the phyſeter, which cryſtallizes into ſpermaceti, ſhews ſome affinity in this reſpect to the ſecretion of fat that becomes ſuet, which is only met with in ruminating animals; but on the other hand, the oil of the reſt of the whale tribe does not form this ſubſtance, more than the fat of the horſe produces tallow. Theſe facts may be afterwards explained by an examination of the digeſtive organs of the phyſeter, when an anatomiſt ſhall have an opportunity of examining them.

"Theſe are inquiries which do not belong to the preſent paper, as it is only intended to add ſome facts to thoſe already laid before the ſociety, and in a future communication I hope ſtill further to increaſe their number."

Med. and Chir. Rev.

*Obſervations regarding the renovation of the diſtinctions of youth.**

"AMONG the various circumſtances which diſtinguiſh youth from old age, three of the moſt remarkable are, the colour of the hair, the poſſeſſion of teeth, and the clearneſs of viſion. It is ſingular, that many inſtances are to be met with, where, after old people have experienced a failing with reſpect to theſe particulars, nature has in a manner made a freſh effort to renew the diſtinctions of youth.

"We ſhall proceed to give inſtances where a renovation has taken place in regard to each.

THE HAIR.

"The colour of the hair varies much in different men, during their youth; but when they get old, it almoſt uniformly becomes, firſt grey and afterwards white. This does not happen at the ſame age in every caſe; for ſome are grey as early as twenty, or twenty-five, while others have only a few grey hairs at fifty, or even ſixty years of age.

"It can hardly be doubted, that dryneſs, or want of moiſture, is a principal cauſe of grey hairs, and conſequently, that the cuſtom of wearing hair-powder muſt bring them on ſooner than otherwiſe would be the caſe. There is reaſon, therefore, to believe, that keeping the roots of the hair well moiſtened with oily or fat ſubſtances, is the beſt means of keeping back what ſo many are inclined to conſider as a defect, but which, at the ſame time, is not conſiſtent with the poſſeſſion of good health, or the attainment of longevity.

* From Sinclair's code of health and longevity.

"But the ſingular circumſtance is this, that after an individual has got grey hairs, he ſuddenly or accidentally loſes them; and, in their ſtead, hair of a different colour makes its appearance. Of this the following examples may be cited:

"It is recorded in the tranſactions of the royal ſociety,* on the evidence of Dr. Slare, that his grandfather, whoſe hair, about the eightieth year of his age, had become white, grew much darker afterwards.

"It is alſo reported of one Mazarella, who died at Vienna, in the 105th year of his age, that a few months before his death, he had not only ſeveral new teeth, but that his hair grown grey by age, became black, its original colour.†

"A ſimilar circumſtance is mentioned of Suſan Edmonds, of Winterbourn, Hants, who died at the age of 104, and who, five years before her death, had new hair, of a fine brown colour, which began to turn grey a few months before her death‡

"It is alſo ſaid, that John Weeks, of New London, in Connecticut, who died at the age of 114 years, loſt his grey hairs, which were renewed by hair of a dark colour.§

* Vol. xxviii.

† *Eaſton* on human longevity, p. 147.

‡ Ibid, p. 168.

§ Ibid, p. 286.

THE TEETH.

"There is no particular, in reſpect of which former generations ſeem to have enjoyed a greater ſuperiority over the preſent, than with regard to the duration of their teeth. A place of interment was lately opened at Scone, near Perth, in Scotland, which had remained untouched for above 200 years, and yet to the aſtoniſhment of every one, among a great number of ſkeletons, which were there diſcovered, there was hardly any of them whoſe teeth were not entire and ſound.* This muſt be aſcribed to greater ſimplicity of diet; to the teeth being leſs injured by fumes from a diſordered ſtomach; to the cuſtom of drinking hot liquors being then unuſual; and perhaps to the abſence of ſcorbutic complaints.

"The means of preſerving the teeth will be the ſubject of future diſcuſſion. On the preſent occaſion it is only neceſſary to obſerve, that many examples may be quoted, where perſons, having loſt their teeth a ſecond time, have got a third ſet of teeth, in ſome caſes partly, in others wholly, ſupplying the places of thoſe they have loſt. This circumſtance merits to be particularly attended to, for as Bacon has well obſerved, new teeth put forth in our older years, betoken long life.

"One of the firſt inſtances of this circumſtance at all authentically recorded, is the caſe of the old Counteſs of Deſmond, which was accounted to be ſo remarkable, that many conſider-

* "This curious circumſtance has been certified to me in a letter from the Rev. Mr. Aitkin, miniſter of Scone near Perth.

ed it to be a fable. Lord Bacon himſelf ſeems to conſider it as doubtful. He ſays, '*They tell a tale* of the old Counteſs of Deſmond, that ſhe did twice or thrice caſt her old teeth, and that others came in their room.' But the fact is ſufficiently authenticated for one of ſuch great antiquity, and is corroborated by many other inſtances.

"In the Philoſophical Tranſactions, vol. xxxviii, it is affirmed by Dr. Slare, that his grandfather, who w[illegible] a native of Bedfordſhire, had all his teeth ſtrong and firm at the age of 80, and that, within five years afterwards, he had a new ſet. He adds, that he remained in good health and ſtrength to the 100th year of his age, and even then died in conſequence of fulneſs of blood. Theſe ſingular events, the doctor attributes to the frequent uſe of ſugar of which his relation was a great eater.

"It is ſingular that the teeth ſhould, in this particular inſtance, be preſerved ſo long, notwithſtanding the uſe of ſugar, ſince the ruin of the teeth is ſo often attributed to that article.*

"In the Philoſophical Tranſactions alſo, two other inſtances are mentioned, one of Joſeph Shute, a clergyman, who got a new tooth when he was 81 years of age; and another, Maria Hart, who got two new teeth at 75 years of age.†

* The Negroes have fine teeth, though they uſe much ſugar.

† In Eaſton on Longevity, there are many inſtances quoted of a renewal of teeth, as that of Philip Laroque, p. 104; Marion Gibſon, p. 225, &c. &c. There is alſo a remarkable inſtance of one in Hufeland, vol. i. p. 171.

"In the return I have received of the old people from Greenwich hoſpital, mention is made of one (John Moore, a a native of Ireland, the oldeſt man in the houſe,) who ſaid that he had four new fore-teeth within five years preceeding the return, one of which he had accidentally loſt.*

"I myſelf have ſeen one James Donald, an old man now living, who had got new teeth, which I had an opportunity perſonally of examining. They appeared to be of a much ſofter conſiſtence than teeth uſually are, and not fit to do the ſame ſervice; and, on the whole, they can only be conſidered as an imperfect ſubſtitute.

"It is ſaid by anatomiſts, that the foundation of three ſets of teeth may frequently be traced in the jaw of man. But if that is often the caſe, it is ſurpriſing that inſtances are not more frequent of ſuch teeth being obtained.

THE SIGHT.

"There is alſo reaſon to believe, that after the ſight has been loſt, ſeemingly by a decay of nature, it has again returned, not perhaps in its former perfection, but ſo as to be of great uſe.

"One of the moſt ſingular inſtances of the ſight being renewed, is in the caſe of Machell Vivan, a native of Scotland, but who was ſettled as a clergyman in Northumberland, and lived beyond 110 years of age. A particular account of him is

* Lowthorp's abridgement, vol. iii, p. 297.

given by a perſon entitled to credit, who ſaw him perſonally in the year 1657, and who declares, that his hair had become like a child's, rather flaxen; that he had three new teeth, which he, however, got with difficulty; and though, about forty years preceeding that period, he could not read the largeſt print without ſpectacles, yet, that his ſight was renewed, ſo that no print or writing was ſo ſmall that he could not read it without them. He had five children after he was eighty years of age.*

"I am aſſured, from reſpectable authority, that the following circumſtance may alſo be depended upon. A lady, in the county of Fife, North-Britain, who died at the age of 89, after having been under the neceſſity of uſing ſpectacles for ſeveral years, recovered her ſight, ſo that for ſome time before ſhe died ſhe could read very ſmall print, and ſew linen without glaſſes.

"Dr. Ruſh alſo mentions an old, man (Adam Riffle, of Pennſylvania,) who, about the 68th year of his age, gradually loſt his ſight, and continued entirely blind for the ſpace of twelve years, at the end of which period his ſight returned, without making uſe of any means for the purpoſe, and without any viſible change in the appearance of the eyes. It is ſingular, that after recovering his ſight, he ſaw as well as ever he did. During both the gradual loſs and recovery of his ſight he was no ways affected by ſickneſs, but, on the contrary, enjoyed his uſual health.†

* See Fuller's Worthies of England, fol. edit. 1662, county of Northumberland, p. 309.

† "*Medical Inquiries and Obſervations*, by Benjamin Ruſh, M. D. printed at Philadelphia, anno 1793, p. 312."

"Several other inſtances of a ſimilar nature may be quoted,* but theſe are ſufficient to eſtabliſh the general principle, that aged people may have this diſtinction of youth renewed.

"It is ſingular, that no particular inſtance has occurred of the ſenſe of hearing being renewed, after being loſt by a decay of nature, or the effects of old age. It is to be obſerved, however, that the human race are not ſo apt to loſe their hearing as their ſight. In the return from Greenwich hoſpital of 96 old men beyond 80, the organ of viſion was impaired in about one half, whereas the organ of hearing only to the extent of about a fifth. But this circumſtance can eaſily be accounted for, as the eye is certainly a more delicate organ than the ear, and more liable to a variety of accidents."

Med. and Chir. Rev.

On the Blood of Perſons affected with Jaundice.

M. Deyeux, a Pariſian chemiſt, has made ſeveral experiments which ſeem to ſhew, that the yellow tinge the ſerum of

* "See *Eaſton on Longevity*, account of Thomas Edgar, p. 195, and Jane Allen, p. 215. An intelligent phyſician informs me that he knew an old lady of above 70, who had uſed ſpectacles at 50, and about 70 could ſew fine work without them. She had cartilaginous ſubſtances on the gums, which appeared to her as new teeth. When theſe changes took place, ſhe had a regular monthly diſcharge of blood from an iſſue ſomewhere about the knee. She was ſo *renovated* as to walk miles."

the blood exhibits in jaundice is not owing, as commonly ſuppoſed, to the preſence of proper bile in the blood-veſſels. The ſerum in this ſtate, has neither, he ſays, the odour nor the taſte of bile; nor is alkohol, by being digeſted on it, impregnated with any degreee of bitterneſs. It is remarkable, that the craſſamentum, in the caſes examined by M. Deyeux, was not reddened in the uſual manner by expoſure to air; nor did the ſerum coagulate by the application of heat.

Med. and Chir. Rev.

Reece, on the good effect of Acetate of Lead, in Hooping Cough.

Sir,

I AM not aware that the acetate of lead has been ever employed or ſuggeſted as a remedy for the hooping cough: if it have, you will of courſe ſuppreſs this communication. The diſeaſe appearing in my own family with unuſual violence, and reſiſting the common remedies of emetic and nauſeating doſes of ipecacuan and tartarized antimony, full doſes of cicuta, aſſafœtida, oil of amber, &c. &c. I reſolved on giving the acetate of lead a trial, in conſequence of having found it a moſt valuable medicine in abating the cough and quieting the hectic ſymptoms attendant on phthiſis pulmonalis. I commenced by giving to a child of four years old a tea-ſpoonful of the following mixture every ſix hours:

℞	Plumbi acetati	gr. v.
	Syr. Violæ	ʒij.
	Aq. Roſæ	ʒij.

The cough being on the following day leſs frequent and violent, and the ſtomach or bowels not deranged by the medicine, I directed the doſe to be increaſed to two teaſpoonfuls every ſix hours. After the firſt doſe the child was not heard to hoop, and after two days more the cough entirely ceaſed. The child's general health, which for ſome time had been bad was evidently improved by it.

The reſult of this experiment induced me to give it to my youngeſt child, and ſeveral others in the neigbourhood, in which it proved ſo ſucceſsful, that I really conſidered it a ſpecific in thoſe caſes, and therefore am deſirous to recommend it to the attention of practitioners, through the medium of your very valuable and juſtly eſteemed Review. I have alſo found this preparation to ſucceed in a violent acute ſpaſmodic affection, and in a caſe of mania hyſterica in a young lady of eighteen years of age. I attribute its ſalutary effects in theſe caſes to its power in diminiſhing excitability.

Med. and Chir. Rev.

Adjunct Profeſſor of Surgery.

The Truſtees of the Univerſity of Pennſylvania have lately added an adjunct profeſſor to the ſurgical chair. Dr. John S. Dorſey was elected to this ſituation.

PROSPECTUS

OF

A NEW PERIODICAL PUBLICATION.

By Dr. Tobias Watkins, *of Baltimore.*

AT firſt view it may be thought by many, ſuperfluous to attempt the eſtabliſhment of a publication ſo ſimilar in its nature to that of the *Philadelphia Medical Muſeum;* but when it is conſidered, that however wide the circulation of that valuable work, or however well ſtored with original matter, there muſt be ſtill many important facts in Medicine which cannot find room for admiſſion, and which may thus remain unknown to the world, the Editor conceives that his attempt, however humble, will neither be conſidered uſeleſs or unneceſſary. No country in the world affords a more ample field for the ſpeculations of the Phyſician or Philoſopher than the United States of America, and perhaps no civilized country has leſs reaſon to boaſt of its diſcoveries or improvements in either ſcience: That this is owing to any deficiency of talents in the United States, will hardly be aſſerted by the moſt prejudiced foreigner; to what then can it be aſcribed but to a reprehenſible paucity of proper channels, through which the obſervations and remarks of intelligent men may be conveyed to the world? There are as many good books withheld from public notice, through diffidence, as there are bad ones uſhered into it through vanity; and thoſe very men who would ſhrink with horror at the idea of expoſing themſelves in the characters of authors, would readily impart their ſtore of information in the form of epiſtolary communication. Under ſuch impreſſions, the Editor conceives it unneceſſary, to offer any apology for his endeavour to augment the catalogue of his Bookſeller. It would be equally unneceſſary, and indeed preſumptuous, to

make any promiſes of what the work may be, as its ſucceſs and value muſt depend wholly upon the number and reſpectability of its contributors and patrons. Preference ſhall always be given to original communications of merit over every other, and of them the Editor muſt reſerve to himſelf the liberty of ſelecting ſuch only as he ſhall deem moſt worthy of publication, without feeling obliged to reply to the cavils of any correſpondent who may think himſelf undeſervedly neglected.

CONDITIONS.

I. The title of this publication ſhall be "*The Baltimore "Medical and Phyſical Recorder.*"

II. It ſhall be publiſhed on a good paper and new type.

III. It ſhall be publiſhed in numbers, one every three months or nearly ſo; ſo as to form a volume every year—each number ſhall contain at leaſt eighty pages.

IV. The price to ſubſcribers ſhall be *fifty cents* for each number, or *two dollars* the volume.

V. It ſhall be put to preſs as ſoon as a ſufficient number of ſubſcribers can be obtained to defray the expenses. Diſtant ſubſcribers to pay one volume in advance, or obtain ſome friend in town to become anſwerable.

Communications and ſubſcriptions addreſſed to the Editor *poſt paid*, will be thankfully received.

Baltimore Oct. 31ſt, 1807

Information reſpecting the Influenza, in a Letter to the Editor from DR. SPALDING, *dated Portſmouth, Feb.* 24, 1807.

"THE influenza made its appearance in this town about the middle of laſt month, and I think more than one half of the inhabitants already have felt the effects thereof.

"I think it ſlighter than I have heretofore ſeen it: very few call for medical aid. The ſymptoms are, a feveriſh habit, pain in the back, in the head, in and over the eyeballs, ſore throat and hoarſe cough, coryza and ozena, inflamed eyes."

☞ It will be obſerved that in the cloſe of the laſt number of the Muſeum, the Editor adverted to the improper conduct of the editors of the London Medical and Phyſical Journal, in frequently introducing into their work, copious extracts from the Muſeum, without any reference to the ſource from which they are taken. The Editor would have reſted ſatisfied with the remarks then made, had he not lately received the number of the Medical and Phyſical Journal for October laſt, in which out of 32 communications given, only the *moderate proportion* of 18, are taken from the Muſeum, occupying 48, of a number conſiſting of 96 pages. Of this number three only, are ſaid to be taken from the Muſeum; ſix are merely noticed as addreſſed to Dr. Coxe, of Philadelphia; and eight have not even this partial acknowledgement from whence taken; but appear to be introduced in the manner they are, with a view, to poſſeſs the numerous readers of that work, with an idea of an immediate correſpondence with the authors of the eſſays. How far this conduct is conſiſtent with propriety and decorum, the Editor leaves to the judgment of the public; obſerving only, that ſuch illiberal plagiariſm, does not ſpeak greatly in favour of that extenſive correſpondence which they generally notice in their annual addreſs to the public.

The Editor however is determined to lay claim to his own right, and ſtrip theſe Daws of their borrowed plumes, whenever he ſhall perceive that due juſtice is not rendered him. He truſts however, a more proper ſenſe of literary juſtice will in future govern them, in duly noticing the ſource of their extracts, if they ſhould perceive any thing in the Muſeum worthy of their ſelection.

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